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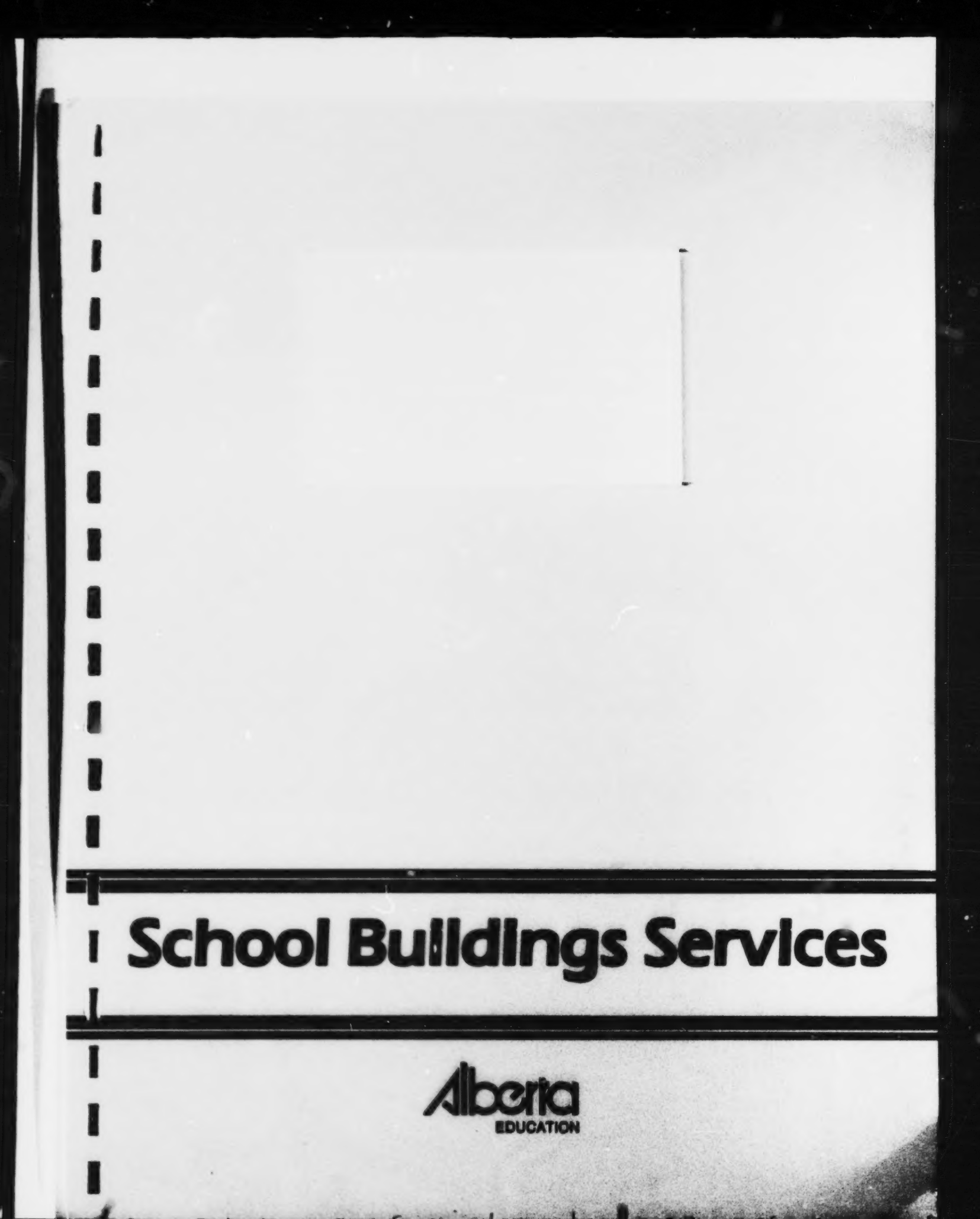

VOLUME 1

AN INFORMATION SYSTEM FOR THE COUNCIL OF EDUCATIONAL FACILITY PLANNERS INTERNATIONAL MEMBERSHIP INFORMATION NETWORK

BACKGROUND REPORT AND IMPLEMENTATION MODELS

APRIL 9, 1986

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EXECUTIVE SUMMARY

This report addresses the immediate need of the Council of Educational Facility Planners International for a document to assist in the planning process for establishing an information system for its members and other stakeholders who need information on educational facilities.

The contents of this report focus on the major activities to be accomplished and the issues to be considered in order to plan, develop and establish an information service. This report contains the following sections:

Section 1. Introduction: wherein the scope, purpose and limitations of the report are outlined.

Section 2. CEFP/I's Goals for an Information System: wherein these goals are examined objectively and a set of questions emanating from these goals is asked to indicate the issues which need to be addressed in order to plan an ideal service.

Section 3. Information Needs Assessment: wherein the value of conducting a needs survey of the membership to determine what the nature of a CEFP/I information system should be is discussed.

Section 4. Literature of Educational Facilities: wherein the literature pertaining to the field, where to obtain it, how to obtain it and CEFP/I's role in the context of other information providers is discussed.

Section 5. Functions of an Information Service: wherein the six basic functions of a service, the objectives of the functions and considerations for their implementation are described.

Section 6. Technology Available to CEFP/I: wherein computer communications and applications useful in implementing information service functions are described.

Section 7. Models for the Development of Information Services: wherein possible steps for implementing functions are outlined, and the cooperative roles of CEFP/I information centres are discussed.

Section 8. Recommendations: wherein short-term and long-term activities for the development of a CEFP/I information service are discussed.

Recommendations focus on the need for CEFP/I to consider the issues and considerations raised in this report in order to make informed decisions about the development of an information service.

ACKNOWLEDGMENTS

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Appreciation is expressed to the staff of Alberta Education Library Services for assistance in the literature review, providing documents, and consultation on and demonstrations of information service applications of the technology noted in this report.

Several CEFP/I members and others involved in educational facility planning and design in Alberta gave willingly of their time to be interviewed in person and by telephone. Their discussions on information needs, and their comments and ideas provided valuable background to the preparation and development of this report.

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SUMMARY REPORT

The Council of Educational Facility Planners International, at its 1984 International Conference in Toronto, set its primary goal as the establishment of an information system to collect and disseminate information on educational facilities to members and other stakeholders. The final result envisioned would be a "one-stop shopping centre for educational facility planning whereby members would be referred to the resource desired". The ideal information system proposed by CEFP/I is a major step in formalizing their present activities of exchange and dissemination.

In order to implement the ideal information system, the following questions need to be addressed:

1. What problem does the establishment of an information service address?
2. What kind of information service will best serve the needs of CEFP/I members and other stakeholders?
3. Should the service be established on a national, regional or chapter basis?
4. What information do CEFP/I members expect to obtain from such a service?
5. How do they expect to obtain this information?
6. What is the relationship of the CEFP/I information system to other commercially available information services?

Although the report does not attempt to provide answers to these questions, it does provide CEFP/I with the background information necessary to clarify the objectives of their proposed information system, and give direction to their planning process. Several topics are discussed which have direct implications for the development of an ideal CEFP/I information service: the use of an information needs assessment to determine the nature of the information service to be provided; who is currently providing information on educational facilities; how information services can be developed; how they can cooperate with each other to provide a comprehensive service to the membership; and, what role computer technology can play in providing this service.

INFORMATION NEEDS ASSESSMENT

An information needs assessment is a technique used to determine the information requirements of a given set of people. Determining what information is required or needed is fundamental to the development of an information service that will be useful to a majority of members. The major focus of an information needs assessment should be to answer the following questions:

1. Who uses information;
2. What information is used or needed;
3. How is that information obtained;
4. What information that is not presently used, would be of value.

When these questions have been answered, it should be possible to determine if an information service is needed, with what information it should be concerned, and the most appropriate structure for the service.

Based on research, it is recommended that such an information needs assessment take the form of a questionnaire.

LITERATURE OF EDUCATIONAL FACILITIES

A study of the literature of educational facilities was undertaken to determine what it is, where it can be found, and how to obtain it. Based on the potential information resources available through public and semi-public on-line databases and printed indexes, CEFP/I could define its role as an information provider in several ways: central collector of all material on educational facilities, collector of some part of the available literature; provider of reference service; provider of referral service; or a combination of all.

FUNCTIONS OF AN INFORMATION SERVICE

The information needs assessment provides information about who the users are, what information they would want, and how they obtain their information. The survey of the literature, which determined what resources are presently available to CEFP/I members, provides a context for CEFP/I's role as an information provider. Resolving users' needs with CEFP/I's possible relationship to other information providers, enables planners to clarify the functions which should be implemented in a responsive and efficient information system.

The functions of an information system are:

Identification of materials, the objective of which is to exhaustively search all resources to identify relevant material for a collection;

Collection, the objective of which is to acquire material in order to have ready access to information from a collection;

Access, the objective of which is to provide intellectual access to the collection (e.g. by indexing and abstracting);

Dissemination, the objective of which is the distribution of information from the collection and resource people;

Reference and referral, the objective of which is to provide information from the resources at hand, and/or provide a link to people, organizations, and other sources of information;

Communication, the objective of which is to provide a forum for the exchange of ideas and information.

Not all functions need to be implemented. Only those functions which emanate from the clarified goals and objectives of CEFP/I's information system need to be executed. The functions chosen for execution may also be limited by available budget.

TECHNOLOGY

Several technologies are currently available which could facilitate the implementation of the above functions of an information service. The technologies discussed are: communications via computer; database management systems and considerations for their use; electronic mail and electronic bulletin boards and their applications for facilitating communication and exchange of ideas; and, a communication network (iNet 2000) which facilitates electronic links with other information providers.

MODELS FOR IMPLEMENTATION

The report concludes with a discussion of models for the implementation of an information service. These models outline the functions which are feasible to execute based on available budget and the level of commitment that might be expected from the regions and headquarters. The models represent guidelines and suggestions, not necessarily prescriptions for providing service. Three levels of service which can be provided are outlined. They are:

1. Minimum Service Model includes activities which could be accomplished relatively easily and have immediate benefits to the membership.

2. Standard Service Model includes all the basic functions of an information service. Execution of these functions requires a qualified staff, office space and an appropriate budget.

3. High Tech Model includes all the basic functions of an information service facilitated by the user of computer applications and communications. Implementation of the high tech model requires a substantial budget.

Models are provided which outline levels of cooperation between headquarter-based and region-based information services as possible means of accomplishing the goals of CEFP/I for providing information to their membership. The handling of materials and information in support of the information service can be done by a central authority, the regions, or by a combination of efforts. The models are:

Decentralized Model - Each chapter might develop autonomous information services which would not necessarily strive for the same goals or levels of service due to differing organizational priorities and fiscal constraints. Autonomous regions could perform the identification, collecting and indexing of materials and possibly contribute this information to the headquarters.

Centralized Model - A strong centrally-based information service (i.e. headquarter-based information service) would carry out all functions: identifying, collection, accessing, disseminating and loaning of materials.

Combination Model - A combination of regional information centres with a coordinating central authority at the headquarters is another alternative. The headquarters role in this context can be one of setting basic rules and policy for accomplishing the selection and indexing of materials in the regions. This relationship between the headquarters and the regions can function in a number of ways. The basic difference between the combinations is whether or not there would be duplication of effort between the regions and headquarters.

The determination of levels of service and the development of service in each information centre can take place autonomously, or in conjunction with each other. A bottom-up or top-down approach can be taken to determine the levels of cooperation between headquarters and regions.

In the bottom-up approach, information centres first determine their own levels of service based on local conditions, and then consider cooperation with other information centres. Service models (i.e. minimum, standard, or high tech) are looked at first; models for cooperation are considered after information services are established. This implies that information centres will develop at their own pace to their own level of service, and cooperation with others may subsequently take place.

In the top-down approach, models for cooperative efforts are considered from the outset by information centres. The central authority determines the level of contribution by the regions to provide overall information service to members. Depending on its role, the central authority could dictate the level of service (i.e., minimum, standard, or high tech) provided in other centres, or it might only dictate policy in terms of what is collected and how it is indexed in each information centre.

RECOMMENDATIONS

CEFP/I's present resources (i.e. budget, staff, and time) were not major considerations in the formulation of recommendations. Therefore, recommendations are limited to fundamental activities which the organization should consider undertaking if and when resources are available. The recommendations are:

1. An information needs assessment must be undertaken in order to develop an effective information service.

2. The present membership directory should be upgraded to a directory which is classified by expertise and areas of specialization and/or interests.

3a. Each region should be made responsible for collecting the material generated in its own region and index this material for the benefit of all members, or

3b. One region could be appointed to undertake the collection and indexing of all material generated by CEFP/I members in all regions.

4. Services offered by the information centre in Columbus should be evaluated in terms of the quality of the collection and the present staffing levels. If useful information is available, then services should be marketed.

5. Information provision should be encouraged at the regional level even if a headquarter-based information service is the goal.

6. Providing information costs money; therefore, the more planning that is done, the more cost-effective and efficient the service will be.

SECTION I

INTRODUCTION

The Council of Educational Facility Planners International (CEFP/I) is composed of individuals and firms who are responsible for the planning, designing, creating, maintaining, and equipping of the physical environment of education. Members of CEFP/I number 1043 and are located in North America and overseas. The organization presently sponsors the exchange of information, professional experiences, results of research and other investigative techniques concerning educational facility planning. In 1984, at its international conference in Toronto, Ontario, CEFP/I set its primary goal as the establishment of a major information system to collect and disseminate information on educational facilities to members and other stakeholders.

The ideal information system proposed by CEFP/I is a major step in formalizing their present activities of exchange and dissemination of information. This step will require systematic planning based on informed decisions about what services such an information system should provide.

The purpose of this report is to provide background information on the provision of information services, the issues to be considered, and their implications for planning and design of such services. It is intended to assist CEFP/I planners in clarifying the objectives of their proposed information system, and give direction to their planning process.

CEFP/I's present resources (i.e. budget, staff, and time) were not major considerations in the formulation of suggestions and recommendations presented throughout this report. The only assumption made was that CEFP/I has a serious commitment to formalizing the processes of providing information to its members. Therefore, such suggestions and recommendations are limited to fundamental activities which the organization should consider undertaking if and when resources are available.

SECTION 2

CEFP/I'S GOALS FOR AN INFORMATION SYSTEM

At the 1984 International Conference in Toronto, CEFP/I members met and outlined the future direction of their organization for 1985-1990. The five-year development plan calls for CEFP/I to facilitate the implementation of an information resource bank that would act as clearinghouse and referral service for all members. The final result envisioned would be a "one-stop shopping centre for educational facility planning whereby members would be referred to the resource desired".

The following goal statements for the information resource bank were expressed by Dr. Kulba, President of CEFP/I at a CEFP/I - Alberta Chapter Seminar November 15 - 16, 1986:

1. To discover, collect and disseminate knowledge about educational facility planning.

2. Improve information dissemination systems including written, telephone and computer assisted roles.

3. Develop a computer assisted information retrieval system that will provide members with the most accurate up-to-date information.

4. Develop information systems which would provide members with ready access to the most current procedures for financing capital improvement projects.

5. Establish an information, retrieval and referral system for energy conservation in educational facilities.

6. Establish a clearinghouse of resource people and organizations that have the capability of providing needed information.

7. Play a major role as an information service bureau for persons concerned or involved with educational facilities:
   a. information provider - journals, publications, newsletters, conferences, conventions, training, computer resource bank for selected topics
   b. switcher - personal and computer referral system to other resource centres and clearinghouses.
   c. network operator - personal and automated hub for members to share ideas and exchange information.

Achieving all these goals is a large task and represents an ideal information system for CEFP/I and its membership. In order to implement these goals, the following questions need to be addressed:

1. **What problem does the establishment of an information service address?** Is the problem - lack of communication among members; lack of information about what is available; or, little or no access to information on educational facilities? Once the specific problem(s) is identified, the objectives of the information

system can be outlined and a final plan of action developed. For example, if the problem is lack of information about availability of appropriate literature, CEFP/I might direct their efforts toward a current awareness program; eg., marketing already commercially available information services to members. **Identifying the initial problem enables CEFP/I to focus its planning efforts and resources.**

2. **What kind of information service will best serve the needs of CEFP/I members and other stakeholders?** Is the one-stop shopping centre concept the best solution? Will such a service be too costly to maintain and use on a regular basis? Will all members need the same level of service? Can CEFP/I afford to respond to majority and minority needs? If the information needs of most members are currently being filled through personal contact with colleagues, CEFP/I resources might be best focused on improving the channels of informal communication and exchange of ideas.

3. **Should the service be established on a national, regional or chapter basis?** This question deals with the notion of centralization vs. decentralization. Some functions of an information service are best controlled centrally, while others are best dealt with at a decentralized level. Constraints on resources; i.e., time, money, personnel coupled with immediate needs of members, may indicate the initial establishment of independent services on a regional or even chapter level. Such developments may be encouraged as interim steps. CEFP/I's role could be the facilitation and encouragement of resource sharing among the independent services to an "ideal" system.

4. **What information do CEFP/I members expect to obtain from such a service?** What is feasible to provide given available time, money and personnel? Do members and stakeholders expect a variety of statistical information; i.e., mographic projections, blueprints, government reports, etc.? This has implications for housing and maintenance of material, how and by whom material is collected, scope and content of the collection of materials and the intellectual access to the collection (method of indexing).

5. **How do they expect to obtain the information?** Who will pay for the process of obtaining information? Will CEFP/I fully subsidize such a service or will users pay for a percentage? Do members and stakeholders expect immediate response to their queries? Is a 2-3 week response time for requested material acceptable? Are members willing to invest in technology to improve response time (computer hardware and software)? Phone and written requests for information usually entail a longer response time (depending on nature of query) than if the member could communicate needs and transfer information quickly via computer networking.

6. **What is the relationship of the CEFP/I information services to other commercially available information services?** Does CEFP/I wish to identify, collect and disseminate information already available from other services? Depending on how CEFP/I defines its role in this context, the organization could take advantage of already established clearinghouses (e.g., ERIC) by sending relevant materials to the service to be microfilmed and made accessible to an international audience. Resources could therefore be focused towards other

areas of information provision; e.g., research, current awareness programs, etc., rather than in the costly pursuits of identification, collection, and dissemination.

The following sections of this report attempt to provide the background information necessary to address these questions. Several topics are discussed which have direct implications for the development of an ideal CEFP/I information service: the use of an information needs assessment in determining the nature of the information service to be provided; who is currently providing information on educational facilities; how information services can be developed; how they can cooperate with each other to provide a comprehensive service to the membership; and, what role computer technology can play in providing this service.

SECTION 3

INFORMATION NEEDS ASSESSMENT

A. WHAT IS AN INFORMATION NEEDS ASSESSMENT?

Information needs assessment is a technique used to determine the information requirements of a given set of people. Information is defined as "knowledge that you already have about a subject; advice, facts and opinions received from other people; and data contained in documents." Determining what information is required or needed is fundamental to the development of an information network or service. One of CEFP/I 's goals is to build an information network. If CEFP/I desires a service that is useful to a majority of members, then an information needs assessment should be carried out.

The major focus of an information assessment should be to answer the following questions:

1. Who uses information?
2. What information is used or needed?
3. How is that information obtained?
4. What information that is not being used, would be of value?

When these questions have been answered, it should be possible to determine if an information service is needed, what information it should be concerned with and the most appropriate structure for a service. The results of an information needs assessment could indicate that required or desired information is being located and this would suggest that an information service is not necessary. On the other hand, the results might indicate that information on current research on educational facilities is required but not readily available. This result would suggest that an information service should concentrate its efforts on supplying and disseminating information on current research. If the needs assessment found that searching through printed data sources for information was the most heavily used technique for information gathering, but the most satisfactory technique was to telephone colleagues, CEFP/I could develop an information system that would facilitate this communication.

B. PRELIMINARY NEEDS ASSESSMENT

A preliminary needs assessment was carried out during February and March 1986. Background information for this report was gathered which aided the development of a preliminary questionnaire. During the preliminary, informal telephone interviews with fourteen CEFP/I Alberta chapter members, it was found that most individuals are able to locate the information they need by touring educational facilities, talking to colleagues at conferences or over the telephone, or talking with consultants (education specialists, engineers, etc.). Half of those surveyed felt that the processes for obtaining information was satisfactory; one felt that it was dissatisfactory; and nearly half did not have an opinion.

The telephone interviews were only a first step to help identify information areas and the occupational groups represented by the membership. A summary of the results of the interviews has been included as Appendix A. The interviews were not conducted in order to draw conclusions or make suggestions, but they were useful in the drafting of a preliminary questionnaire, which could be used as a basis for an information needs assessment. This questionnaire has been included as Appendix B.

C. HOW TO DO AN INFORMATION NEEDS ASSESSMENT

The first step in carrying out an information needs assessment is to identify and study the potential clients of a CEFP/I information service. The potential clients are present and future members of CEFP/I. Future membership should be taken into account if the organization is planning to encourage individuals in previously unrepresented occupational groups or geographic areas to join. For example, if CEFP/I was to encourage educational facility planners in Quebec to join, then the needs assessment should include a section on language.

The second step in an information needs assessment is to determine what the information needs are. There are a number of ways this can be done:

1. Members could be studied and their information requirements identified and analyzed. This technique requires that someone watches potential clients and analyze and categorize the information they use, and "how they obtain that information". This approach is not viable for an organization which is geographically dispersed or as large as CEFP/I. Nor would it be viable to undertake a modified version of this approach, whereby typical members would be identified and studied. The membership is so diverse that defining "typical" would be extremely difficult.

2. Members could be "asked" what their information needs are. This could be done by interviews in which standard questions are asked, or by a questionnaire. Again, because of dispersion, a questionnaire is the best choice even though questionnaires are far from perfect. It is difficult to obtain a complete set of information requirements since people are usually biased in favour of information they have searched for recently. Non-returned questionnaires also skew the results. This can be minimized if the questionnaires are follow d-up with letters or telephone calls. Due to constraints previously mentioned, a questionnaire is probably the best method available at this time for determining the members' information needs.

SECTION 4

LITERATURE OF EDUCATIONAL FACILITIES

A. WHAT IT IS

The topic of educational facilities planning is multidisciplinary in nature, and thus requires a multifaceted approach to information retrieval. An illustration of the diverse nature of research in this field is provided by the document Planning and Designing School Computer Facilities (Finance and Administration Division, Alberta Education, November, 1985). Several factors were considered in the report: health and safety, ergonomics, curriculum objectives, microcomputers, physical environment for hardware and user, security, electrical design, architectural design, and maintenance of hardware and software. If time and resources were unlimited, approximately twenty-five public information sources (on-line databases) in North America and Europe could have been searched for this information.

From this example and other findings, the literature on educational facilities can be characterized by three facets:

1. **Subject:** relevant information is dispersed through a number of broad subject areas; i.e., education, engineering, computer technology, etc.

2. **Format type:** relevant information is available in numeric data, descriptive text and illustration.

3. **Publication type:** relevant information is available from journal articles, unpublished reports, conference proceedings, speeches, computer printouts, etc.

B. WHERE TO FIND IT

1. Databases and Indexes

Not only is the literature multidisciplinary in nature, but access to it is dispersed into several outlets: printed indexes, public and semi-public on-line databases, private collections and in-house databases. Table 1 provides a classified list of currently available information sources (on-line databases and printed indexes) where information relevant to all aspects of educational facilities can be found. Detailed description of these sources are noted in Appendix C. These sources are generally of three types: bibliographic (provides citations to journals, books, etc.); referral (provides agencies, names and addresses); and numeric (statistics, demographics). All of the databases will incur some cost in their use: subscription fees, usage costs, communications cost, cost of printing information offline or on-line. Such costs can make it prohibitive for individuals to subscribe to and use such services. Access to them is generally through libraries which offer such services, or information brokers.

TABLE 1

Subject Classification of Public and Semi-Public Information Sources (Online Databases and Printed Indexes) Available to CEFP/I
Descriptions of the Following are available in Appendix C

BUSINESS MANAGEMENT
ABI/Info
Canadian Business and Current Affairs
Management Contents
Economic Literature Index

COMPUTER TECHNOLOGY
Computer Database
INSPEC
Microcomputer Index

CONSTRUCTION, ENGINEERING, INDUSTRY
ACOMPLINE
Applied Science and Technology Index
Compendex
Ei Engineering Meetings
Federal Research in Progress
IBSEDEX
Industry and International Standards
INSPEC
NTIS
OON
Standards and Specifications

CURRENT AWARENESS
EDLINE
Education Daily Online
Ei Engineering Meetings
Meeting Agenda
School Practices Information File

DEMOGRAPHICS AND STATISTICS
American Statistics Index
ASIST
CANSIM
Population Bibliography

EDUCATION
Alberta Education Index
Australian Education Database
British Education Index
Canadian Education Index*
Directory of Education Research and Researchers in Australia
EDLINE
Education Daily Online
Education Index
Educational Research Forum
ERIC
EUDISED
Federal Research in Progress
Francis: Sciences de l'Education
In-House Reports of School Boards*
Ontario Education Resources Information System (Onteris)
School Practices Information File
UNESCO

ENERGY
DOE Energy
Energy
Energy Information Resources Inventory
Energy Programs
Energyline
Energynet

ENVIRONMENT
Environmental Forum
Environmental Bibliography

LEGAL
Environmental Forum
Environmental Bibliography

LEGAL
Statutes of Alberta (other provinces and territories also available)

RESEARCH IN PROGRESS
CANREG
Directory of Education Research and Researchers in Australia
Educational Research Forum
EUDISED
Federal Research in Progress
Microlog
SSIE Current Research

URBAN PLANNING
ACOMPLINE
PLANEX
Index to Current Urban Documents*

GENERAL
Bibliographic Guide to Government Publications: Foreign*
CATSS
CODOC
Dissertation Abstracts Online
Federal Research in Progress
GPO Monthly Catalog
GPO Publications Reference File
Index to Current Urban Documents*
International Bibliography - Publications of Intergovernmental Organizations*
Microlog
Monthly Checklist of State Publications*
PAIS International
Social Scisearch
Sociological Abstracts
SSIE Current Research
UNESCO

*available as a printed index only

2. Grey Literature

On-line databases and printed indexes can provide access to a wealth of information, but not all information. There is one area of the literature not to be found on databases or in printed indexes - **Grey Literature.** Grey literature can be defined as literature which is not issued formally and/or literature which is not available through normal channels. Normal channels are considered to be standard bibliograhical lists, printed indexes and on-line databases. Grey literature can consist of reports, codes, preprints and reprints, trade literature and conference proceedings. **Grey literature is not restricted literature; it is merely difficult to identify and obtain.** It may also be very useful to practitioners. Most journal articles are not "grey" because they are indexed (e.g., CEFP Journal), but many newsletters are "grey" since they are not (e.g., CEFP/I News and Views.

Government reports, such as the one cited earlier in this section, are generally considered to be grey literature. This is unfortunate, since it implies that no one knows about them, and much potentially valuable information is left unused. Several indexing services are attempting to identify and make accessible such material: Alberta Education Index, Ontario Education Resources Information System (Onteris) and ERIC. However, the largest problem which remains is that of identifying what is being published, formally or informally. The indexing services are only including what is submitted to them and not all organizations are consistently notifying indexing services. **Publicizing and sharing information would go a long way to alleviating some of the problems associated with grey literature.**

Table 2 provides a list of possible sources of grey literature. Contacting the organization, association and individuals and asking for a publication list is usually the only way of identifying what is available.

3. Colleagues

An additional and very important source of information, not as yet mentioned, is word of mouth - contact with colleagues via conferences, telephone, letters and computers. More than any other method of information gathering, personal contact is the easiest and most widely used in all walks of life and by all kinds of people. It is the primary reason for conferences, seminars and workshops, and is probably the most valued result of such gatherings. While a CEFP/I member may not be able to access on-line databases or take the time to carry out research to solve a problem, he always has access to a personal network of key people who may help with the problem. Due to the ease with which it is generally done, the low cost entailed, the satisfaction enjoyed by interpersonal communication, and the immediate benefits to the users, personal contact is the most valuable form of information gathering.

TABLE 2

Possible Sources of Grey Literature

RESEARCH INSTITUTIONS AND ASSOCIATIONS:

Academy for Educational Development (AED)*
Alberta Teachers' Association (and other provincial teachers' associations)
American Association of School Administrators (AASA)*
Association of Physical Plan Administrators of Universities and Colleges (APPA)*
Association of School Business Officials of the United States and Canada (ASBO)*
Canadian Education Association/Association Canadienne d'Education*
Centre for Architectural Research, Rensselaer Polytechnic Institute*
Centre for Education Policies Studies, University of Minnesota*
Centre for Education Research and Field Services, New York University*
Educational Research Council of America (ERCA)*
Educational Facilities Laboratories (EFL)*
Educational Planning Service, University of Northern Colorado*
International and Development Education Program, University of Pittsburgh*
National Association of Secondary School Principals (NASSP)*.
Stanford University School Planning Laboratory (SPL)*
Far West Laboratory for Educational Research, San Francisco

OTHERS:

School boards
Education faculties, universities
Provincial and state government departments overseeing school planning and funding
Federally funded agencies concerned with education
Consultants, architects

*described in Appendix C: Associations and Research Institutes

C. HOW TO GET IT

The availability and number of specialized on-line databases and printed indexes enables users to identify many potential sources of information to help solve their problems.

In order for an individual or organization to access information on an on-line database, they must have a computer terminal with communications capabilities (a modem or acoustic coupler). To search most on-line databases, one must have a password. In order to get the password, searchers must contact the vendor prior to the first search. Some vendors only charge for actual searching done, others charge a monthly or yearly subscription fee.

Getting the information, however, is another step and potentially, another problem. The inclusion of a citation on a database or in an index is not a guarantee that the information is obtainable or even available; it is only an indication of its existence. If the on-line database does not provide full text retrieval, a microfiche or text service (such as ERIC does); or the local library facilities cannot fulfill a request for a particular item from the collection, the interlibrary loan process comes into play. The "difficult" item can take up to six weeks or more to obtain depending on the lending institution. Resources, i.e., money and personnel, play a considerable role in how quickly information is retrieved and how far an individual or organization can go in obtaining the information.

D. SUMMARY

1. **What resources are available to CEFP/I members now?**

   - Public and semi-public commercial on-line databases (bibliographic, referral and numeric)
   - Printed indexes
   - Libraries, information brokers
   - Colleagues via personal contact, telephone, letters, computer
   - Conferences, workshops, seminars
   - Research from other organizations, associations and research institutions

2. **What hindrances exist in using these resources?**

   In using the information sources, i.e., on-line databases, indexes:

   Congestion - the volume of published information demands a parallel increase in the information search and handling capacity of the user. Since the user's capacity is limited, the required search capacity may exceed the available search capacity. This causes a decline in information search effectiveness.

   Dispersal - the literature is dispersed by media, language, discipline and to various dissemination centres. Therefore, research must cover a greater range of publications, media, languages and disciplines. Researchers generally fail to spread a search over as wide an area as the dispersal of their discipline (or problem) demands.

Grey literature - reports, codes, standards and specifications, patents, preprints and reprints, trade literature, conference proceedings, translations not published commercially and technical recommendations; can be published on paper, microform, as photographs, maps, slides or computer printouts.

Time - becomes an issue due to the increasing amount of information, the number of on-line databases and indexes to be checked, and the greater diversity and complexity of information retrieval systems.

Additional problems of the user:

Inadequate search skills - user (CEFP/I member or information intermediary, e.g., librarian) need to have knowledge of the subject being researched; a realization of the value and importance of information; sufficient and sustained interest and time to trace required information; adequate search capacity; familiarity with published information sources; and familiarity with library collection and available information facilities and services.

Lack of resources - library facilities and search centres may not be available to the member.

Lack of money - to attend workshops, conferences; to take advantage of available information sources.

Lack of time - to tap potentially useful resources; to attend conferences, seminars and workshops; and to keep up with new developments in the field.

Information exchange - members may be unaware of the formal and informal channels by which information can and should be shared with other members, research organizations, institutions and governments.

3. What is CEFP/I's role in the context of available resources?

Given the potential availability of information relevant to educational facilities, the role of CEFP/I could be defined in several ways. They are:

- Central collector of all material on educational facilities, including that already accessible through formal channels
- Collector of some part of the available resources (e.g., grey literature)
- Reference service - subscribing to on-line databases and providing personnel to do the research and obtain the information for the user
- Referral service - refer user to appropriate search facilities, organizations, associations and research institutions
- Combination of some or all of above

4. Considerations

If CEFP/I intends to become a central collector of all information on educational facilities (first point above), one method of doing this is to download search results from on-line databases to create an in-house database. These search results can be transferred to a local computer and stored for re-searching. Once this information has been stored locally, some information services (i.e., libraries) remanipulate, reformat the results, or merge them with information in the in-house database. This information can then be re-searched.

Most publishers of databases, such as the publisher of Social Scisearch, index and make the information available as a for-profit business. However, other publishers, such as the publishers of ERIC, offer their database as a service and only charge users of the database a fee that will offset the cost of production. These costs usually appear as a royalty charge to the user.

Because publishers do not receive royalty fees for searches done on downloaded information, it may be that copyright is being infringed upon. Current Canadian law does not address this issue; however, it is likely that any revisions to the copyright law will take the "ownership" of information in machine-readable form into consideration. Some database publishers will give permission to organizations to download and re-search information.

SECTION 5

FUNCTIONS OF AN INFORMATION SERVICE

Based on CEFP/I's goals for an information service (see p. 2), service functions, function objectives and major considerations for the implementation of functions are identified and outlined in Table 3. A recognition and understanding of these functions provides a platform for planning, management and resource allocation of an information service.

TABLE 3

INFORMATION SERVICE FUNCTIONS

FUNCTION	OBJECTIVE	MAJOR CONSIDERATIONS
Identification of Materials	-exhaustive searches of all possible sources to identify relevant material (e.g. school boards, journals, newsletters)	-for whom? (users) -by whom? (personnel) -resources (e.g., printed indexes, on-line databases, subscriptions to newsletters, etc.) from which to identify materials
Collection	-ready access to information when required	-from whom is material bought, copied, borrowed, etc.? -personnel to do it -housing, maintenance and organization of collection -scope, content and format of material collected -budget to buy materials
Access	-provide intellectual as opposed to physical access to the collection (e.g., by indexing and abstracting)	-knowledgeable, trained personnel -methods used to provide access (e.g., standardized descriptors, free text, or keyword) -system for providing access (retrieval) (e.g., use of a database management system) -cost
Dissemination	-distribution of information provided from the collection and resource people	-personnel -who pays for distribution costs (The organization or membership) -commitment of the membership in providing resources and information. -how the information will be distributed (e.g., telephone, postal delivery, electronic mail)
Reference and Referral	-provide information from resources at hand -provide a link to people, organizations, and other sources	-identify and maintain current file of individuals and organizations -knowledgeable, trained staff -what linking processes - telephone, electronic bulletin boards
Communication	-provide a forum for the exchange of ideas and information	-channels of communication to be used: telephone, electronic mail, electronic bulletin boards, printed word

Providing any level of information via an information service requires money. Costs of the service are determined by :

- level of service, e.g., all functions may be implemented or only some functions are implemented
- level at which function is implemented, e.g., quick reference or referral; extensive reference requiring one or more man-hours, using on-line commercial information services.
- automation of functions - access and retrieval using a database management system; dissemination using electronic communications, referral using an on-line classified directory or bulletin board.
- level of staffing - number and man-hours
- type of staff - clerical, professional, paraprofessional
- size of collection, housing of collection

Once functions for a service have been determined, options for the implementation of those functions can be explored. The next section examines the role that computer technology might play in the implementation of these functions.

In the final sections of this report, options that emanate from these six functions and alternatives for implementing them are discussed.

SECTION 6

TECHNOLOGY AVAILABLE TO CEFP/I

Several technologies are currently available to CEFP/I which would facilitate the implementation of the functions of an information service. The following definitions and descriptions are given to provide an understanding of the technology itself; applications or models are provided for the purpose of additional explanation, and to show how the technology has been used in certain contexts similar to or of immediate value to CEFP/I's proposed information system.

A. COMMUNICATIONS

Before discussing the various ways in which computer technology can be used in providing information services, a brief summary of how communication between computers takes place is in order. Generally, this communication can be done via telephone lines which are **voice-grade** or **data-grade.**

1. Voice-grade lines

The user having appropriate communications software and a **modem** (a device which translates digitized data from a computer to analogue format so that it can be transmitted through a telephone line), dials a local or long-distance number using a telephone line from his office or home, connects to the host computer and transacts his business. The major consideration in using a voice-grade line is the security and quality of the data sent or received. Voice-grade lines are not intended for data transmission and there is no support given to use of voice-grade telephone lines for data transmission. Users must also pay for the cost of the local or long-distance calles made.

2. Data-grade lines

The most common form of data-grade lines for long-distance transmission of data are packet-switched networks, such as **Datapac** in Canada, or **Tymnet** or **Telenet** in the United States. The user calls a number which would connect him to a "node" of the communication network. For most users, this would be a local call since nodes are present in most cities in North America. The packet-switching network divides the data traffic it receives from all users into blocks called "packets" which have a given maximum length. Each packet of user data travels in a data envelope which gives the destination address of the packet and a variety of control information. The computer at each switching node reads the packet into its memory, examines the address, selects the node to which it shall transmit the packet, and sends it on its way to its destination. It is rather like a postal service in which letters in envelopes are passed from one post office to another until they reach their destination. The typical delivery time is about a tenth of a second.

The primary reason for using Datapac is that data sent or received is securely packaged during its transmission because the telephone lines used are intended and designed specifically for data transmission. The user only has to telephone one number, generally to a local node, get on to Datapac and give the Datapac address of the host computer to be reached. Costs of Datapac include the one-time installation fee ($125.00); monthly access service ($134.00); usage costs ($.45 per kilo pac or 256,000 characters).

Through Datapac, users can be connected to U.S. and European packet-switched networks.

B. DATABASES AND DATABASE MANAGEMENT SYSTEMS

A **Database** is any collection of data or information which is stored in an organized form such that elements may be quickly and easily retrieved, added or changed. A major trait of a database is the organization of the data. Databases may be manual systems or automated systems.

A **Database Management System** or a DBMS as it is also called, is used to access the information in a database. It is a special set of programs that manage the storage, access, updating and maintenance of a database. Data are organized so that they may be retrieved via access programs by a number of different means independent of the organizing program logic. Most DBMS allow the database manager to:

- create new files
- manage data
- add records to existing files
- merge files
- retrieve and format information
- check for errors on new data (not all DBMS have error checking built in, although the best systems do)
- update or edit existing records
- delete records
- create reports

1. Types of databases

Databases may contain bibliographic information, numeric files, or file text/reference information. A bibliographic database contains citations and sometimes abstracts of books, journal articles, reports, etc. An example of this type of database is ERIC. The information contained in this type of database can be accessed by searching for a given title, author, publication date, subject (also known as descriptor) or a free text search for terms appearing in any or specified fields. A numeric database contains numbers and this information can usually be manipulated beyond simple retrieval (i.e., regression analysis may be performed). Full text or reference databases contain the full text of articles, directories or encyclopedia.

2. Considerations in building a database

- The information to be included in the database needs to be identified and a system put in place to continually gather the information.

- Guidelines have to be developed concerning the collection of the data, the input style and the length of time the information will be held in the database.

- A decision must be made on how the information will be retrieved. Retrieval can be on given fields, on free text and/or on controlled vocabulary. If controlled vocabulary is used a thesaurus must be developed, giving the terms to be used plus definitions of those terms and the cross references to similar or related terms.

- The information must be indexed based on the decision as to how the information will be retrieved. The index process could use a professional indexer or trained secretarial staff. The decision on who should do the indexing should be based on how sophisticated the indexing system is. This decision will affect the cost of building the database (i.e., secretarial staff are less expensive to hire) but also affects the quality of the product, and therefore the satisfaction with the end product.

3. Factors influencing costs of developing a database management system

- hardware costs	fixed cost
- software costs	fixed cost or continuing cost
- systems development costs	fixed cost
- programming costs	fixed cost or continuing cost
- personnel costs	continuing cost
- maintenance costs	continuing cost
- cost of the information	continuing cost
- telecommunication costs	continuing cost
- storage costs	continuing cost

4. Hardware Considerations

Databases can be developed on personal computers or microcomputers, minicomputers or mainframes. The differences between the three types of computers are numerous; but for the purposes of a DBMS, significant in terms of storage capabilities. Microcomputers are becoming more sophisticated, flexible and inexpensive. These factors make a microcomputer desirable for building a database; however, there are limits as to the number of records that can be available on-line at any given time. There are also limits on the number of users who can access the system at any given time. The final decision as to what kind of computer to use depends largely on the following factors:

- How much the organization wants to spend. Microcomputers are the cheapest but would also require the purchase of peripheral equipment such as a hard disk to expand the memory.

- The size of the database, i.e., the number of records and the size of those records. If the maximum size of the database were 5,000 records of 2,000 characters/record then a mainframe would not necessarily be required.

- The number and types of operations that would be available. If statistical analysis as well as bibliographical retrieval were to be carried out on information in the database, then a microcomputer might not be powerful enough in terms of the desired time to carry out those operations.

- Support and service for hardware offered by the hardware vendors.

The last two considerations are less important today than in the past. Technology is changing so rapidly that the division between microcomputers and minicomputers has nearly disappeared.

5. Software considerations

CEFP/I could develop its own DBMS or it could buy a software package. There are numerous software packages available to run on all types of computers. The development costs vary dramatically based on which route is taken and what applications are desired. Prior determination of the type of data, general size of the records (i.e.. description of the data), and the applications are necessary to make a decision on a package or the development of an in-house system. It may be that none of the DBMSs available will do the tasks that are desired. Not only initial development but in-house software maintenance may be required.

6. Considerations when buying a software package

- **Costs** - Packages vary from inexpensive microcomputer systems to expensive mainframe systems.

  e.g. - dBASE III for use on a microcomputer costs approximately $650.00
  - BRS/Search for use on a supermicrocomputer or minicomputer costs from $7500.00 to $30,000.00 depending on number of users supported
  - BASIS or BRS/Search for use on a mainframe costs approximately $90,000

- **Staff** - there must be staff to implement the system, make any changes and handle maintenance problems.

- **Support** - some software vendors also sell the service contracts that specify the amount of aid they will give with your software (adapting, etc.). This may be important in large systems.

- **Hardware** - most packages are designed for specific (or a number of specified) hardware environments.

- **Operating Systems** - most packages are designed to be used with a specified operating system.

- **Desired Speed of Retrieval** - some DBMSs are designed so that the information can be retrieved quickly while other systems take longer to retrieve the desired information. This is partially dependent on how the information is stored internally and the method of retrieval.

- **Capacity** - many packages have a maximum record size and maximum number of records. Not all may meet the needs of the organization.

- **Documentation** - there should be complete, readable documentation available.

If a package is bought and modified there are additional considerations:

- extra staff time is required to specify changes

- extra programming costs will be incurred

- delay in implementation

- possible incompatibility with future changes in the software

7. Considerations for developing your own Database Management System

- **Costs** - there is no set cost for developing a database. Costs are contingent on: complexity of the design and systems development; cost of hiring programmers; cost of maintenance, including changes after initial development. One rough estimate of cost is $12,000 to $16,000, based on twelve to sixteen weeks of system design work plus $25,000 to $38,000 programming and implementation cost (see Appendix D).

- **Hardware** - the hardware the system will be maintained on may be predetermined by what is already owned or leased by the organization, or new hardware to be purchased will have to be examined. The software cannot be written in isolation from the hardware.

- **Staff** - will be required for running the system, making adjustments and handling maintenance.

  Reports - desired outputs must be determined and programmed into the DBMS.

- **Desired speed of retrieval** - how quickly information should be retrieved must be taken into consideration when the DBMS is designed and programmed. This is partially dependent on how the information is stored internally and what method of retrieval is chosen.

- **Implementation time** - how long it will take to have the DBMS designed, programmed, debugged and implemented must be considered.

- **Documentation** - complete and readable documentation on the design and running of the system must be written.

8. Other considerations

CEFP/I could build a database of information then hand over the information and the responsibility for the availability of the information, to a commercial database vendor. There are a number of vendors who might be considered, such as Lockheed Information Systems (Dialog), Bibliographic Retrieval Systems (BRS), QL Systems Ltd. and SDC Information Services (Orbit).

C. ELECTRONIC MAIL SYSTEMS
(also known as **Personal Messaging, E-Mail**)

E-Mail systems allow subscribers of a service to send to and receive messages from other groups or individuals on the service. They connect the user directly (through a communications terminal) with a computer that allows a message to be created, edited, stored, and transmitted during the same process. The advantage over telephoning someone with a message is that, depending on your equipment, you can get

a printed copy of the messages you receive. Use of E-Mail reduces what is commonly called "telephone tag". Telephone tag has been described as the situation in which one executive makes repeated attempts to reach another by telephone, and the other makes unsuccessful attempts to return the calls. E-Mail eliminates telephone tag because the computer stores the message until the recipient is ready to read it on a display or printer terminal.

E-Mail systems can be one service (i.e., ENVOY 100) or be components of other communications networks (i.e., ENET, The Source, electronic bulletin boards).

National System:

ENVOY 100 (Available through Alberta Government Telephones)

Monthly fixed rate per organization: $20.00 plus $3.00 for each user-ID. Usage charge is based upon kilocharacters (kc) which are sent to and from ENVOY 100 by the message's originator, as well as kilocharacters which are sent to recipient(s) of the message. The sender pays to input the message and also pays for the message to be delivered. The usage charge is:

- $0.30/kc for the first 15,000 kc/month/account
- $0.25/kc for the next 25,000 kc/month/account
- $0.22/kc for over 40,000 kc/month/account
- $0.05/message/address

As an example, a 1000 character message (about 120 words) would cost the sender $0.30 to input into the system, $0.30 each time it is read and $0.05 per addressee. Thus this message sent to one addressee anywhere on the Datapac network would cost $0.65. If sent to two addresses, it would cost $1.00 ($0.30 for input and $0.35 for each addressee).

Storage charge is one-half cent/kc/day. As an example, a 1000 character message would cost about $0.15 per month to retain.

Description

National network from Trans Canada Telephone System (TCTS) which allows users to prepare, correct, send, distribute, access and file messages destined within and between subscribing companies and retain permanent records of communications. Envoy 100 is accessed by standard terminals and existing TCTS services through Datapac network. Messages can be put into the system anytime, from anywhere and held until the addressee is available, or optionally, messages can be delivered automatically to a specified terminal.

Envoy 100 can be linked to packet switched networks (like Datapac) in the United States and other international packet switched networks.

All school jurisdictions in Alberta will have Envoy 100 user IDs

Advantages of Electronic Mail

- user interacts directly with the system; intermediate steps such as longhand composition and rekeying are avoided
- allows the originator of the message and the receiver to communicate independently
- frees individuals to communicate when they cannot do so directly, or when precise, fast communication is essential
- improves group interaction
- simplifies planning activities
- enables users to reach decision points faster
- allows creation of electronic forms, e.g., questionnaires

Considerations:

- requires computer hardware/software which may not be immediately available
- telephone may be best medium - one can always leave messages or talk directly to another person
- there is a response time element which negates immediate action, should it be required
- amount of use may dictate cost effectiveness of the system
- does not allow for the posting of public messages; the originator of the message must identify all potential readers of the message, and each address the message is sent to costs an additional fee

D. ELECTRONIC BULLETIN BOARD (EBB)
(also known as **Computer Bulletin Board (CBB), or Bulletin Board System (BBS)**)

Operates the same way any bulletin boards do, except that they are housed in computer systems and accessed by a computer and the telephone. The user, through a **modem** (device to link your computer to others via a telephone line) and communication software, can log on to a **host** computer, get data, messages and information, leave messages and data, upload and download information (**file transfer**), and then log off. The user, in effect, controls the host computer throughout this process although the flexibility and power of the EBB lies in the data base of the host computer.

EBBs may vary in content, but most offer similar features:

Electronic messaging - allows users to send and receive messages to and from other users. Message lengths tend to average around 150 - 200 words. Some EBBs allow private messages, while on others all messages are public (also see Electronic Mail).

Text files - most EBBs contain text files of information intended to be read on-line or printed out for later reference (**downloading**). These items may consist of manuals, reviews, or user-contributed articles.

Bulletin board - displays semi-public or public information contributed by the system operator (**sysop**) or callers (**uploading**). Callers can read everything on a bulletin board, or pick and choose which items to read. Information on the bulletin board can be organized into subject areas or can contain miscellaneous, unrelated messages.

Uploading/Downloading - uploading is the process where the caller sends information to the host computer for later downloading by other callers. Not all bulletin boards provide for uploading contributions by callers. Downloading is the process where the caller transfers information from the host computer. Downloading is available on most bulletin boards and is probably the most used feature.

Communication Networks Which Include Bulletin Board Functions:
(Additional documentation for ENET, SpecialNet and Edline is included in Appendix E)

1. **ENET - Education Network**

Available to anyone with a University of Alberta MTS Account - $10.00 per month. Price based on average costs per 150 word message:

$0.45/message - send a message
$0.35/message - to receive a message
$0.60 (depending on file size) - to initiate file transfer
$0.60 - to receive a file

Description:

Established in 1985 by Alberta Education to facilitate the flow of information from the department to school jurisdictions on a daily basis. ENET is coordinated by the Communications Branch. The branch compiles information from throughout the department and posts the bulletin board on a daily basis. Provides the following features: **electronic messaging** (E-Mail), **electronic bulletin board** (EBB) and file transfer capabilities (**uploading/downloading**). Content presently includes Highlights, News Releases, Policies and Regulations, Financial Information, Research Information, Curriculum Information, access to MTS Message System. ENET is not a two-way system - only the Communications Branch can upload information on to the bulletin board.

As of January 1986 the following school jurisdictions are on ENET: Grande Prairie, Sherwood Park, Rocky Mountain House, County of Parkland, Catholic School Trustees Association.

System Administrator: Wolfgang Schimeck, Alberta Education
Phone: 427-2035

2. **SpecialNet** (National Association of State Directors of Special Education, Inc., 1201 - 16th Street, NW, Suite 404E, Washington, DC 20036)

Available to subscribers 24 hours per day, 7 days per week. Subscriptions: Plan I: $200 per year; subscribers are billed on a monthly basis for actual time they are connected to the SpecialNet. Plan II: $500 per year, provides a subscription and $300 prepaid computer connect time. Plan III: $1100; basically Plan II, except that it includes a Model 707 Portable Printer Electronic Data Terminal, manufactured by Texas Instruments.

Description:

SpecialNet is an education-oriented, computer-based communication network and part of a larger computer network with local telephones in all major cities. It includes **electronic mail**, and over 50 **electronic bulletin boards** addressing general information topics and special interest groups, and **uploading/downloading** capability.

National, state, and regional boards are available for subscribers to read. Some of the national boards include: **Ed. Daily** (covers Congress and federal agencies, the courts, the state, and local education agencies specifically for education administrators); **Conference** (education-related conferences); **Exchange** (facilitates the sharing of information and ideas among SpecialNet users); **Rural** (serves as a source of sharing successful practices, programs, publications, and other resources for rural special education students).

A number of states post information on EBB's set-up exclusively for their state. There is no charge for setting up a board; groups or organizations pay only for information storage which ranges from $2 to $10 per month. SpecialNet support personnel will assist in establishing and maintaining a bulletin board. A directory of SpecialNet users is available on the system.

A demonstration of SpecialNet can be arranged through Alberta Education Library Services.

3. **EdLine** (National School Public Relations Association, 1801 North Moore Street, Arlington, VA 22209)

Fee-based. Available through The Source (See this section). One-Time fee for The Source and annual fee to EdLine of $100. Available 24 hours daily. Connect time is $16.50 (days) or $7.75 (evenings).

Description:

Intended primarily for superintendents and central school district office staff. This service contains several **bulletin boards** to query, including **Education Report:** compiled by editors of Education USA and 40 education reporters across the country, appears twice daily; **Federal Alert:** contains recent legislation, appointments, etc.; **Telephone directory** for Education Department; **Legal Decisions** in education - Supreme Court judgments over the past 10 years; **Useful facts and figures:** selected education statistics from the National Council on Education Statistics; **Classroom Ideals:** management ideas, research, etc.

In addition, there are several additional agency lines available: **AASA** On-line - American Association of School Administrators provides a morning report on legislation of interest to AASA; **CCSSO** On-line - the Council of Chief State School Officers; **NASBE** On-line - National Association of State Boards of Education. Many states have created their own boards restricted for use by state personnel. These include Arkansas, Connecticut, Pennsylvania and others.

A demonstration of EdLine can be arranged through Alberta Education Library Services

4. **The Source** (Telecomputing Corporation Reader's Digest, Educational Division, 1616 Anderson Road, McLean, VA 22103)

Available to subscribers. Costs include a one-time hookup charge of $100 and two basic services -- connect-time (or hourly usage charges) and file storage. There is a minimum usage fee each time you sign on and for each month of your subscription.

Description:

This information service contains over 1,200 services and programs available to subscribers. Those concerning education and technology include **EdLine; Bulletin Board; Education** (education and financial aid, instructional programs in language arts, foreign languages, math); **Careers** (employment opportunities and industry news); **Computers** (40 categories of information on computers and their use); **Fairs and Festivals** (computers); **Mathematics** (7 categories on advanced mathematics); **Science News and Information** (24 categories of science news); and **Statistics** (20 categories on advanced statistical analysis). Other features are **Files** (for creating, editing, sorting, and structuring files on The Source); **Programs** (data base management), **electronic mail** and **uploading/downloading** capability.

A demonstration of The Source can be arranged through Alberta Education Library Services.

5. **Creating your own EBB**

EBBs can be set up on personal computers using commercially available software. Fixed costs include $2000 to $3000 for the dedicated personal computer host and modem; $8 to $300 for the bulletin board software; $150 to install a dedicated telephone line and about $15 per month for local telephone company service. Usage costs include the long distance telephone charges.

The packaged bulletin board system is usually less expensive than a national public service such as The Source. How dramatic the savings can be depends on the location and number of users. If you have more than 24 frequent users or 100 infrequent users on a packaged bulletin board system, you will probably have to go to a public service to avoid overloading the system. If a person or organization needs a national audience, a public service board will be beneficial.

The most severe limitation of packaged EBBs is that they only allow one caller at a time to use the system (single-line system). If the EBB is popular, would-be users must call several times before getting through. Once on, however, it means the caller has sole use of the system, with none of the slow response time associated with multi-user systems. The technology is currently available for multi-line EBBs, but the costs involved are too great to be borne by individuals. One company, eSoft, is planning to bring out a multi-line system in 1986.

For additional information regarding cost comparisons between the packaged EBB and the public service see "How to set up a company bulletin board". Personal Computing March 1986, pp 83-91.

6. Considerations for setting up an EBB

- what do you want to achieve with your bulletin board?
- identify your prospective users? Will they be computer or non-computer oriented, or both?
- will they demand a 24 hour system?
- how large will your data base be?
- do you want a message capability only? A conferencing-style board with long message capability?

An excellent source of information on setting up on EBB is How to create your own computer bulletin board by Lary L. Myers (Blue Ridge Summitt, PA: Tab Books Inc. 1983).

7. Advantages of an EBB

- messages can be open (readable by anyone) or personal (message can only be read by person it is being sent to)
- excellent medium for providing current awareness service to an association, organization, company, etc. Bulletins could include:
  - conference and workshop agendas
  - minutes of meetings
  - questionnaires
  - user submitted articles
  - notice of research-in-progress
  - news of developments in the profession
- facilitates problem solving among groups sharing a common interest
- provides an open forum for opinion and exchange of ideas

8. Considerations for the use of an EBB

- effectiveness is dependent upon the number of users and their access to it
- must determine users readiness to use it:
  - user must be prepared to commit resources to support the EBB. Resources include staff time as well as computer hardware and software
- effectiveness of EBB depends on availability of worthwhile and interesting materials
- effectiveness depends on willingness to change and update information quickly and regularly
- lack of computer hardware/software may make immediate application for potential users unfeasible.
- almost any kind of personal computer can gain access to an EBB as long as the files and messages uploaded (sent to the host computer) are in a common format (such as ASCII)

E. iNet 2000 - AN INTELLIGENT NETWORK

iNet 2000 is a service offered by Telecom Canada to facilitate information management. It is best represented as a "gateway" facility which connects users to a variety of information services and databases stored on many different computers. These information services may include public on-line databases (e.g., Dialog and BRS), information networks (e.g., The Source), or an in-house database operated or owned by an iNet 2000 user for the sole use of its employees or representatives.

Access to these information services is through a "gateway directory" provided on-line by iNet 2000. A user scans the directories for the appropriate information service and, provided the user is accredited to use the chosen service, is connected to that service by iNet 2000 through Datapac, Tymnet and Telenet. This process eliminates the need for the user to know the telephone number, Datapac address or protocols necessary to be connected to a host information service.

There are a number of other services provided to subscribers: electronic mail to all iNet 2000 and Envoy subscribers; the ability to manipulate information using a personal workspace and command files; and the capability of disseminating and communicating information through conferencing and notice boards. The conferencing facility allows up to twelve iNet users to monitor the activities of a conference chairperson. This feature can be used to hold on-line training sessions, or enable one or more users to monitor an on-line search being done by the conference chairperson.

Sample costs:

iNet 2000 is available locally through Altel Data, Alberta Government Telephones. A demonstration of iNet 2000 can be arranged through their office.

Telephone connections to iNet 2000 are toll free.

To communicate with iNet 2000:

6 am - 6 pm	$15.00 per hour (about $.25 per minute)
6 pm - 6 am	$11.25 per hour

To access a third party information provider*:

Canadian database	6 am - 6 pm	$6.00 per hour
	6 pm - 6 am	$4.25 per hour
U.S. database	any time	$9.00 per hour

Additional costs for storage, conferencing and messaging on iNet 2000 are available from Alberta Government Telephones.

*Prices quoted here are only for using iNet 2000 to connect the user to the database. On top of this charge, the user must also pay for the subscription and usage costs set by the individual databases. As a subscriber to iNet 2000 using third-party information services, the user is paying only for the "gateway" facility or the convenience of being connected to the databases directly. Users are responsible for obtaining and paying for subscriptions to databases they wish to use. This can be initiated through iNet 2000 which also manages the billing procedures.

Advantages:

- Users in rural areas which have no local Datapac number benefit because telephone connnections to iNet 2000 are toll free.

- Users do not have to be familiar with all the different protocols necessary to access a variety of information services.

- The service combines the "gateway" facility to information services with electronic messaging, and a number of other capabilities to provide a complete information management system without having to subscribe to separate services (i.e., Datapac for communications, Envoy for electronic mail).

Disadvantages:

- There is no real cost saving if the main use of iNet 2000 is for accessing third-party information services. It would be cheaper to pay for Datapac and go direct to the on-line databases. For example, if a user regularly searched SpecialNet, The Source, ERIC on Dialog, and Canadian statutes on QL, he would have to have subscriptions to all these services and would access them through Datapac. If the user used iNet 2000 to access these databases, he would be paying an additional charge on top just to facilitate the connection process.

  The ideal users of iNet 2000 would be those who searched only one or two databases (e.g., lawyers would usually only access QL systems) and have a need for all the other services provided by the network - messaging, conferencing, file manipulation in personal workspaces. The value of the network is highly dependent on the number of provided services needed by a user.

  For additional documentation on iNet 2000 see Appendix E.

SECTION 7

MODELS FOR THE DEVELOPMENT OF INFORMATION SERVICES

There are two aspects to be considered in implementing information services. The first is deciding the level of service to be given at information centres. Parts A and B (region-based and headquarter-based information centres) outline implementation steps that are based on budget feasibility and level of commitment that might be expected from the regions and the headquarters. These steps represent guidelines and suggestions, not necessarily prescriptions for providing service. The regions and headquarters could pick and choose steps from the different service levels in order to design the service that is responsive to membership needs as determined through an information needs assessment. The levels of service outlined for region-based information centres can be implemented at the chapter-level.

The second aspect to be considered is the level of cooperation between headquarters and regions to provide information service (part C). Models of decentralized, centralized and combined information services are presented as guidelines to help determine the configuration which would be of most benefit to the membership.

A. REGION-BASED INFORMATION SERVICE

1. Minimum Service Model

1.1 Create an executive position in the region to be responsible for information coordination, direction and/or performance of minimum service functions and marketing of services.

1.2 Initiate a newsletter (if one does not already exist).

1.3 Develop and maintain a registry of current research conducted by the local membership.

1.4 Develop and maintain a membership directory classified by expertise to allow for easier and more useful communication between colleagues in terms of sharing ideas, answering specific questions and opinion gathering on specialized topics.

1.5 Direct an information needs assessment of the membership to determine whether an information service is needed, and if so, the nature of the service.

2. Standard Service Model

(Standard service includes the basic functions of an information service; performance of these functions is not dependent on computer applications or communications)

2.1 Includes all points from Minimum Service Model.

2.2 Establish a regional information service (provide office space) staffed part-time or full-time. Staff should be able to do research and reference, indexing, and be familiar with resources in order to identify and collect materials.

2.3 Identify and collect materials for reference and loan.

2.4 Identify organizations, agencies and individuals that create information relevant to the field of educational facilities. Get on the mailing lists of these organizations and agencies to receive their material.

2.5 Collect newsletters from the headquarters and other regions and chapters of CEFP/I.

2.6 Actively collect papers, reports and other documents written or prepared by members.

2.7 Index newsletters and materials deposited by regional members and other stakeholders.

2.8 Build contacts with executives of other regions in order to share own resources and encourage them to share theirs.

2.9 Provide photocopying services and dissemination of information resources.

2.10 Identify other local agencies and libraries that may have relevant materials and resources of use to the regional information centre and members. Determine if these agencies and libraries will extend their services directly to members; if not, attempt to become an intermediary between the members and these other resource centres.

2.11 If regional members would like a proactive service whereby the staff provides information relevant to their particular research interests, a basic SDI (Selective Dissemination of Information) service could be initiated and maintained. The staff would keep current interest profiles of the members who would like this service. Material identified or collected at the information centre would be matched with the interest profiles and the members would be notified that relevant material was available.

2.12 Market the information centre service: maintain a high profile within the region; use the newsletter as a communication channel - include information about the services, cite specific reports, etc. that would be of use to the majority of members.

3. High-Tech Model

3.1 Includes all of the points raised in the Minimum Service Model and Standard Service Model, but facilitated by the use of computer applications and communications.

Example:

- using commercial or in-house developed software to index and provide access to the collection
- using electronic mail service to link the information centre with members
- building an on-line database to access the collection using commercially available or in-house developed software

3.2 *Subscribe to on-line database services in order to:

a) Provide a wider range of information resources to the membership.
b) Enable a more sophisticated and proactive SDI service. The staff would actively seek out information beyond local resources.
c) Quickly and efficiently access information to solve specific problems.
d) Enable a small information service to have access to a large collection of reference tools on-line that would normally be beyond the financial and physical means of the chapter to collect (e.g., directories, encyclopedias, almanacs, international conference agendas).

3.3 Subscribe to iNet 2000 (see p. 28) which provides Electronic-Mail; a gateway to other information providers (e.g., on-line databases); and conferencing capabilities among subscribers.

3.4 Develop a bulletin board service (see p. 23). Market such a service as an addition to newsletters and as a forum for members to exchange ideas. The content of the bulletin board should include: a) the classified directory of

members; b) the directory of current research; c) news and highlights; and d) announcements of upcoming meetings and agendas. This service would be readily accessible to the staff to print off information for members who do not have direct access by computer. Members who do have computer access could download this information for their own purposes.

*These services are fee-based, therefore the chapter must decide who pays for the services, e.g., charge back costs incurred to the members or subsidize the service. These services include access and searching on-line databases, and subscribing to iNet 2000.

B. HEADQUARTER-BASED INFORMATION SERVICE

1. Minimum Service Model

1.1 Appoint or hire someone to direct the following tasks.

1.2 Evaluate present services in order to determine strengths and weaknesses of the services and market those services. If the evaluation is beyond the capabilities of the present staff, hire a consultant to do it.

1.3 Encourage the regions to undertake information needs assessment of members; build on regional needs assessments to define a membership wide profile; or, undertake a membership wide information needs assessment.

1.4 Make newsletters important as current awareness vehicles or channels and encourage members to submit information to them. (e.g., News and Views)

1.5 Develop and market a registry of current research.

1.6 Develop and maintain a membership directory classified by expertise and areas of involvement to allow for easier and more useful communication between colleagues in terms of sharing ideas, answering specific topics. This implies excellent communication between the regions and headquarters.

2. Standard Service Model

2.1 Includes all of the points from minimum service model.

2.2 Hire additional staff. This staff should be able to do the following:

a) reference and research
b) index
c) be familiar with resources in order to build a collection

2.3 The tasks for the staff would be:

a) Collect regional newsletters.
b) Collect papers presented at all meetings, workshops, conferences, seminars and training documents, if any, and provide physical and intellectual access to this information.

2.4 Identify relevant outside organizations, such as Educational Facilities Laboratories, collect their publications and find out what their initiatives are in the field of educational facilities.

2.5 Identify and collect relevant materials on educational facilities. This could be a comprehensive collection; a standard reference collection (i.e., directories, manuals, handbooks); or, a collection of grey literature as previously discussed (p.). In addition, journals covering the fields of educational facilities could be collected.

2.6 Provide services such as photocopying on demand, from articles, reports, etc. The information could be mailed out, or delivered by courier depending on urgency of the request.

2.7 Provide reference services; members could contact the headquarter-based information service via the telephone or mail.

2.8 Market the Council's services, newsletters and journals and at conferences. Meet as many executives of the organization as possible, and interact with any regional information services.

3. High Technology Model

3.1 Includes all of the points raised in Minimum and Standard Service Models, but facilitated by the use of computer applications and communications.

3.2 Subscribe to on-line databases in order to provide a wider range of information services to the membership.

3.3 Provide a bulletin board service (see p. 23); market the service as an addition to newsletters and as a forum for members to exchange ideas. The content of the bulletin board should include: a) the classified directory of members; b) the directory of current research; c) news and highlights; and d) announcements of upcoming meetings and agendas. This service would be readily accessible to the information centre staff to print off information for members who may not have direct access by computer. Members who do have computer access could download this information for their own purposes.

3.4 Create an on-line database service of information relevant to all fields of educational facilities. This database could contain the following: information on the headquarters' collection; information on educational facilities that exist in outside collections; or, information on educational facilities without indicating the location of this material. This database could be made available by computer to all members who can and wish to access the headquarters, or it could be made available by a commercial vendor (p. 21).

C. MODELS FOR COOPERATION BETWEEN REGION-BASED AND HEADQUARTER-BASED INFORMATION SERVICES

These models outline levels of cooperation between headquarter-based and region-based information services as possible means of accomplishing the goals of CEFP/I for providing information to their membership. The handling of materials and information in support of the CEFP/I information service can be done by a central authority, by the regions, or by a combination of efforts. The headquarters could pay all of the costs to operate an information service (e.g., staff, acquisition of material and dissemination costs), or the costs could be absorbed primarily by the regions. Possible alternatives for accomplishing information provision are:

1. Decentralized Model

Each region might develop autonomous information services which would not necessarily strive for the same goals or levels of service due to differing organizational priorities and fiscal constraints. Autonomous chapters could perform the identification, collection and indexing of materials and possibly contribute this information to the headquarters.

Advantage:

- Low cost to the headquarters.

Disadvantages:

- Lack of control which the headquarter-based information service can exercise over all the support activities, i.e., identification, collection, access and dissemination (the headquarters must then rely on the good intentions and expertise of the regions for the performance of these functions).

- Any fiscal constraints or organizational priorities of individual regions can affect the scope and quality of their contribution of information to the headquarters.

2. Centralized Model

A strong centrally-based information service (i.e., headquarter-based information service) would carry out all functions: identification, collection, access, dissemination and loaning of materials.

Advantages:

- All materials can be located in one place and loaned from one service which is a definite advantage for users of the system since all queries, requests, and contributions can be directed to one place.

- Standards for selection of material, indexing, etc. can be maintained.

- Any changes to the service can be accomplished easily because they primarily affect in-house operations at the headquarters, not at the regions. For example, changes in indexing methods would be simpler to effect because headquarters would not have to coordinate changes with the regions.

- There would be no duplication of the activities of indexing and operating an information service at the regional level. Available resources would be used efficiently and effectively.

Disadvantages:

- Because members are spread across the continent, the turnaround time for disseminating information from headquarters becomes an issue, unless high speed transmission of information is accomplished through use of computer technology.

3. Combination

A combination of region-based information centres with a coordinating central authority at the headquarters is another alternative. The headquarters' role in this context can be one of setting basic rules and policy for accomplishing the selection and indexing of materials in the regions. The relationship between headquarters and regions can function in a number of ways:

a) Each chapter would identify, collect, etc. materials from its own region, contribute the information on these materials to the headquarters, and be responsible for loaning its material to interested parties in any other region.

b) Each chapter would identify and index materials in its region, contribute the information on these materials to the headquarters, and collect materials from every other region in an effort to make the materials readily available to members in their own region. This situation is very costly but very convenient for the members.

Advantage:

- The region-based information centres can be an effective regional presence that can promote the work and purpose of information identification and sharing sponsored by CEFP/I - a very important consideration since the real purpose of the entire effort is to inform a variety of people of the existence and availability of information on educational facilities.

- Depending on the service level of each region, immediate benefits can be realized by members since queries can be dealt with at a local level.

D. SUMMARY

The determination of levels of service and the development of service in each information centre can take place autonomously, or in conjunction with each other. A bottom-up or top-down approach can be taken to determine the levels of cooperation between headquarters and regions.

In the bottom-up approach, information centres first determine their own levels of service based on local conditions, and then consider cooperation with other information centres. In other words, service models (i.e., minimum, standard or high-tech) are looked at first; models for cooperation are considered after information

services are established. This implies that information centres will develop at their own pace to their own level of service and cooperation with others **may** subsequently take place.

In the top-down approach, models for cooperative efforts are considered from the outset by information centres. The central authority determines the level of contribution made by the regions to provide overall information service to members. Depending on the role of the central authority, the central authority could dictate the level of service (i.e., minimum, standard, or high-tech) provided in other information centres, or it might only dictate policy in terms of what is collected and how it is indexed in each information centre.

SECTION 8

RECOMMENDATIONS

1. **In order to develop an effective information service, an information needs assessment must be undertaken (see Section 3).** This can be done on a region-by-region basis, but should be centrally coordinated so that comparable information will be collected. The results of the needs assessment will help to clarify the goals and objectives of the information system(s).

2. **The present membership directory should be upgraded to a directory which is classified by expertise and areas of specialization and/or interest.** Based on interviews with CEFP/I members, one of the most useful techniques for information gathering and problem solving is, at present, personal contact with colleagues. A classified directory would enable a member with a specific problem to identify other individuals who are working in a similar area. Members should be asked to submit a profile of their current interests and areas of expertise to a CEFP/I "directory planner". This information should be updated on a continuing basis. A standard form should be used to develop these profiles.

3a. **Each region should be made responsible for collecting regional newsletters, papers presented at CEFP/I regional conferences, regional seminars and workshops, and index the above material for the benefit of all members in all regions.** The responsibility for collecting and indexing non-regional information such as the CEFP Journal, News and Views and papers presented at the international conferences must be assigned to one region, the headquarters, or all regions, or

3b. **ONE region could be appointed to undertake the collection and indexing of ALL CEFP/I newsletters, papers presented at CEFP/I conferences (international and regional), and all CEFP/I sponsored seminars and workshops.** This would also be for the benefit of all members in all regions.

Option 3a. is preferable because it is easier to collect information in one's own jurisdiction. If only one region were to take on this responsibility (3b) then the success of the service is dependent upon the commitment of the other regions to identify and make available their regional information.

4. **Services offered by the information centre in Columbus should be evaluated in terms of the quality of the collection and the present staffing levels.** If useful information is available, then services should be marketed. Evaluation of the collection and services should be carried out by an information consultant who has subject expertise in the field of educational facility planning.

5. **Information provision should be encouraged at the regional level even if a headquarter-based information service is the goal.** Region-based services could facilitate the growth of a central information service provided there is communication and cooperation toward this end. At the very least, the regions can function as clearinghouses for the headquarters, i.e., regions identify, collect, and forward publications prepared by members in their jurisdictions to the headquarters where they would be indexed and disseminated.

6. **The more planning that is done, the more cost-effective and efficient the information service will be, because providing information costs money.**

Volume

2

School Buildings Services

Alberta
EDUCATION

VOLUME 2: APPENDICES

AN INFORMATION SYSTEM FOR THE COUNCIL OF EDUCATIONAL FACILITY PLANNERS INTERNATIONAL MEMBERSHIP INFORMATION NETWORK

BACKGROUND REPORT AND IMPLEMENTATION MODELS

APRIL 9, 1986

PREPARED BY:

SCHOOL BUILDINGS SERVICES

FINANCE AND ADMINISTRATION DIVISION

ALBERTA EDUCATION

11160 JASPER AVENUE

EDMONTON, ALBERTA

APPENDIX A

SUMMARY RESULTS FROM INTERVIEWS

Fourteen individuals who are involved with educational facilities were interviewed during February and March 1986. Most were CEFP/I Alberta Chapter members.

The following is a summary of the answers received during telephone and personal interviews.

1. Who was interviewed (in terms of position) and their activities as they relate to educational facility planning. They are responsible for:

   a. Architects
      - design buildings
      - hire consultants (thermal, etc.)
      - help develop building program

   b. Supervisors of facilities and facility planners at the school board level. They are responsible for:
      - site acquisition
      - architect selection or recommendation architects and consultants for board approval
      - building plan approval
      - plan approval
      - leasing space
      - determining needs for modernization
      - enrolment projections and space requirements
      - capital budget projections
      - overseeing physical plant and maintenance personnel
      - allocation of portable facilities
      - overseeing construction

   c. Government officials
      - provide support for school superintendents
      - provide advice on funding, grant information
      - provide advice on design, landscaping, safety zones, joint use agreements
      - provide capital planning for institutions (Ad. Ed.)
      - determine space requirements (Ad. Ed.)
      - determine cost of space (Ad. Ed.)
      - provide advice on furniture and equipment purchase (Ad. Ed.)
      - provide planning

I chose to ask people about their position and the activities involved in their work because I wanted to be sure that I was interviewing a cross-section of the membership. Job titles are not always enough to determine what a person does and therefore information on job activities was also elicited.

2. What are the information needs of the CEFP/I members (and non-members) that were interviewed. The numbers at the side of each point represents the number of times that particular topic or type of information was mentioned. Information was defined as: advice, facts and opinions received from other people; and data contained in documents.

1 - technical information on products
1 - building standards for specialized teaching areas
7 - layouts, alternative designs or blueprints of facilities
3 - furniture and equipment specifications and reviews
3 - building standards for lighting, humidity, heating, acoustics etc.
1 - criteria for evaluation of facilities
3 - building programs
1 - Alberta Building Code
1 - technical information on mechanical systems, electrical systems or building structure
1 - zoning information
3 - current research on educational facilities
2 - information on use of buildings
2 - grant information
1 - information on funding in jurisdictions other than Alberta
2 - fundable space
2 - demographics
1 - building a better prototype
2 - environmental issues as they relate to design
1 - educational needs of students as they relate to design
1 - educational trends
1 - enrolment projections
1 - fire codes

No attempt was made at this point to differentiate between desired information and information that individuals are using at present.

3. What are the sources for the information used?

5 - looking at plans or visiting other facilities
5 - talking to consultants (education specialists, engineers etc.)
3 - talking to user groups
8 - talking to peers (including at conferences)
1 - information gathered through journal articles and other print media
1 - a library
4 - clients
4 - Alberta Education, School Buildings Services Branch
1 - government reports

4. Is the process you follow now satisfactory?

Yes - 7 No - 1 No answer - 6

5. Suggestions for improving the information flow in CEFP/I.

- Collect and advertise library facilities in Columbus. This includes improving and turn-around time for information and provision of copying facilities. This service could be on a "for fee" basis.
- Improve the membership directory, perhaps taking a "yellow pages" approach.
- The organization could create and disseminate bibliographies on current topics.
- Information on current topics could be gathered, summarized, analysed, and published on a continual basis.
- Members should be polled frequently to identify research topics.
- More "news" could be provided about members.
- Increase the associations publications.
- Local, provincial information is the most valuable.
- CEFP/I should keep a catalogue of unique designs and share the information. This could be especially interesting in terms of local information.
- Information network should be built from the local area to the broader area, and then (perhaps) linked with Columbus. This would give greater force to the local (i.e., provincial) divisions.

APPENDIX B

PRELIMINARY QUESTIONNAIRE FOR INFORMATION NEEDS ASSESSMENT

We are interested in the types of information on educational facilities you need to do your job, and how useful your information gathering methods are. The responses will be used with a view to improving information dissemination about educational facilities.

> **INFORMATION** - In the context of this survey, information is: knowledge that you already have about a particular subject; advice, facts and opinions that you receive from other people; and data contained in documents.

1. In order to relate the information you need to do the work you do, please indicate your involvement with educational facilities.

_____ planner
_____ researcher
_____ building designer
_____ architect
_____ engineer
_____ government official
_____ construction supervisor
_____ physical plant personnel
_____ school superintendent
_____ teacher, principal
_____ consultant, please indicate type: _____
_____ director of business
_____ facility planner
_____ maintenance supervisor
_____ school trustee
_____ school board chairman
_____ secretary treasurer
_____ other, please describe: _____
_____
_____

2. Please indicate the activities/responsibilities which are contained in your job?

_____ conducting facility needs assessment
_____ collection or analysis of demographic information
_____ researching and charting future trends in facility planning
_____ reviewing and evaluating building designs
_____ administer capital funding programs
_____ choosing equipment and/or furniture for a facility
_____ designing a new facility, renovation or modernization projects
_____ supervising the building process
_____ development of education specifications
_____ development of building specifications
_____ preparing facility master plan
_____ other, please describe: _____
_____
_____

3. With whom do you interact while doing your job?

_____ Alberta Education, please list branches: _____
_____
_____

_____ architects
_____ consultants
_____ school board superintendents
_____ school principals
_____ teachers
_____ builders
_____ planners
_____ local interest groups, please cite examples: _____
_____

_____ other, please describe: _____
_____
_____

4. What information do you require regarding educational facilities? When appropriate, indicate whether the information would be of value to you if it was available for:

	NOT NEEDED	NEEDED
demographic		
building standards		
building placement and site analysis		
blueprints and/or specifications of existing facilities		
security systems for education facilities		
environmental issues as they relate to design		
design and design alternatives		
future educational policy and its implications for educational facilities		
new developments in construction materials and techniques		
furniture and equipment specifications		
product specifications		
maintenance procedures and practices		
renovation and modernization		
capital funding programs		
others, please describe: _____ _____		

5. Please indicate the sources used to obtain this information at present and how frequently you use these methods.

	NEVER	OCCASIONALLY	ON A CONTINUING BASIS
personally held collections of books, pamphlets			
CEFP/I headquarters			
local library			
Alberta Education Library Services, Central or Regional Libraries			
Alberta Education, School Buildings Services Branch			
personal contact with individuals you know			
personal contact with individuals to whom you have been referred			
visiting other facilities			
conferences and workshops			
printed indexes			
on-line databases, e.g., ERIC, Compendex			
journals, newsletters			
other, please specify:			

_____

_____

_____

6. Which of the above methods are the most useful ("useful" in this context means "valuable", in terms of fulfilling your information requirements and not necessarily based on frequency of use).

7. Can you suggest any alternative ways of obtaining any of the information you require?

8. a) Are your information needs currently being met?

YES _____ NO _____

b) If you answered no, please describe the difficulty.

9. Please indicate what types of information regarding educational facilities you are using now or would like to see. In addition, indicate how frequently you would like to see this information.

	NEVER	OCCASIONALLY	ON A CONTINUING BASIS
journals			
books			
conferences news and agendas			
conference proceedings			
research-in-progress			
workshop announcements			
general news regarding facility planning			
bibliographies on special topics, e.g., modernization			
directory of CEFP/I members classified by expertise			
technical, research, or unpublished reports			
*from government depts.			
*from local governments			
*from educators			
*from local interest groups			
position papers from organizations, associations, government			
speeches			
statistical information			
other, please specify:			

_____

_____

_____

10. Do you, at your place of work, have access to a computer terminal and modem or acoustic coupler?

YES_____ NO _____

11. If not, is it anticipated that a computer and modem will be purchased within the next year?

YES_____ NO _____

12. Do you have experience or have staff who have experience using this equipment?

YES_____ NO _____

13. In principle, would you be willing to exchange or distribute information on educational facilities with other CEFP/I members on a continuing basis?

YES_____ NO _____

14. In principle, would you be willing to pay a fee to a regional or central resource bank in order to obtain information?

YES_____ NO _____

15. How do you benefit from contact with CEFP/I members?

16. Would you want more contact with CEFP/I members from:

	YES	NO
your provincial chapter	_____	_____
your regional chapter	_____	_____
the international organization	_____	_____

17. Please indicate how you think this could be accomplished?

18. Are there any comments that you would like to make about your needs for information?

THANK YOU for your cooperation in completing this questionnaire. Please return in the envelope provided to:

DRAFT COVERING LETTER FOR THE QUESTIONNAIRE

Dear CEFP/I members:

At the 1984 Council of Educational Facility Planners International (CEFP/I) conference in Toronto, the participants adopted a five-year plan to develop a major role for the organization as an information service bureau for persons and organizations concerned with educational facilities. The initial conception of this role is that the organization operate in the following three modalities:

1) Information Provider
   Publications, conferences, information resource bank

2) Switcher
   Personal and computer referral system to information resources and individuals active in the field

3) Network Operator
   Personal and automated hub for members to share ideas and exchange information.

The results of preliminary research carried out by Alberta Education has indicated that an information needs assessment of the membership should be carried out. The attached questionnaire is the first step in this needs assessment. By completing this questionnaire each member has an opportunity to help direct the future development of a CEFP/I information system.

Thank you in advance for your assistance.

Sincerely,

APPENDIX C: List and Description of Resources for Information on Educational Facilities

1. ONLINE DATABASES

ABI/INFORM

Type: Reference (Bibliographic)

Online Service: Dialog

Producer: Data Courier, Inc., Louisville, KY

Content: Designed to meet the information needs of executives and covers all phases of business management and administration. ABI/INFORM stresses general decision sciences information which is applicable to many types of businesses and industries. Specific product and industry information is included but does not receive primary emphasis. Approximately 550 primary publications in business and related fields are currently scanned for articles to be abstracted and included in ABI/INFORM.

Time Span: August 1971 - present

Updating: Weekly

Price: $78.00/online connect hour, $0.50/full record printed offline, $0.40/full record typed or displayed online.

ACOMPLINE

Type: Reference (Bibliographic)

Subject: Urban Planning

Producer: Greater London Council Research Library

Online Service: ESA-IRS; Scicon Limited

Content: Contains approximately 90,000 citations, with abstracts, to the worldwide literature related to urban studies. Covers population, social planning and services, housing, employment and unemployment, industrial development, environment, civil engineering, traffic engineering, transportation, landscaping, energy, architecture and architectural design, building sciences, structural engineering, fire protection and building materials, waste management, industrial relations, policy and management, economics, finance, and local government. Types of literature covered include books, pamphlets, journal articles, conference proceedings, reports, theses, and bibliographies.

Language: English

Coverage: International

Time Span: 1974 to date

Updating: About 1200 records a month

Price: $66.00/online connect hour, $0.23/full record printed offline, $0.10/full record typed or displayed online.

ALBERTA EDUCATION INDEX

Type: Reference (Bibliographic)

Subject: Education in Alberta

Producer: H.T. Coutts (Education Library), University of Alberta

Online Service: SPIRES through MTS, University of Alberta

Content: Subject, title, and author index to books, journals, reports, etc. published in Alberta dealing with the topic of education in Alberta. Based on the collection of the H.T. Coutts Library. Most current source available of information about all aspects of education in Alberta.

Language: English

Coverage: Alberta

Time Span: 1979 to date

Updating: Monthly

Price: MTS charges only ($10.00 per month)

Also available as a printed index.

APP_ED SCIENCE AND TECHNOLOGY INDEX

Type: Reference (Bibliographic)

Subject: Science and Technology

Producer: The H. W. Wilson Company

Online Service: WILSONLINE

Content: Contains about 82,000 citations to articles, book reviews, interviews, new product reviews, and selected editorials and letters to the editor in 336 English-language publications in the applied sciences and technology. Covers aeronautics and space science, chemistry, computer science, construction industry, electric and electronics industry, energy resources and research, fire and fire prevention, food industry, geology, machinery, mathematics, mineralogy, metallurgy, oceanography, physics, plastics, textiles, transportation, and the following engineering fields: chemical, civil, electrical, environmental, industrial, mechanical, mining, nuclear, and tele-communications. Corresponds to "Applied Science & Technology Index".

Language: English

Coverage: Canada, Ireland, The Netherlands, Switzerland, U.K., and U.S.

Time Span: November 1983 to date

Updating: Twice a week; about 5000 articles a month

Price: $43.00 - $65.00/online connect hour, $0.20/full record printed offline.

ASI (AMERCIAN STATISTICS INDEX)

Type: Reference (Bibliographic)

Subject: Government - U.S. Federal

Producer: Congressional Information Service, Inc. (CIS)

Online Service: DIALOG Information Services, Inc.; SDC Information Services

Contents: Contains citations, with abstracts, to publications containing social, economic, demographic, and other statistical data collected and analyzed by the U.S. government. Covers statistical publications (or publications containing substantial statistical data) generated by executive legislative, and judicial departments; research, administrative, and regulatory agencies; and special bodies created by the Congress or the President. Corresponds to "American Statistics Index".

Language: English

Coverage: U.S.

Time Span: 1973 to date, with selected coverage of publications issued during the 1960's.

Updating: About 1000 records a month

Price: $90.00/online connect hour, $0.25/citation printed offline

ASIST

Type: Numeric

Subject: Socio-economic data pertaining to Alberta

Producer: Alberta Bureau of Statistics

Online Service: ACT Computer Services

Contents: Consists of comprehensive series of statistical data with supporting software products designed to meet the informational needs of a full spectrum of users.

Language: English

Price: Billing each function: $7.00 plus $0.02 - $0.20/ time series
graphs: $10.00 - $14.00, plus miscellaneous charges

AUSTRALIAN EDUCATION DATABASE (ENGN)

Type: Reference (Bibliographic)

Subject: Education and Educational Institutions; Library and Information Science

Producer: Australian Council for Educational Research

Online Service: ACI Computer Services

Conditions: Monthly minimum of $25 (Australian) to ACI for access to all AUSINET databases.

Contents: Contains citations, with some abstracts, to published and unpublished Australian literature, including journal articles, monographs, research reports, theses conference papers, legislation, parliamentary debates, and book reviews in the field of education. Covers educational history; educational research; educational philosophy, policy, and development; sociology; educational planning and administration; educational facilities; the teaching profession; educational personnel; educational management; psychology; teaching; curriculum planning; educational systems and

institutions; special education; and library and information science. Corresponds to Australian Education Index, Bibliography of Educational Theses in Australia, Australian Library and Information Science Abstracts, and Initiatives in Technical and Further Education.

Language: English

Coverage: Australia

Time Span: 1979 to date, with a small number of records from 1978

Updating: Monthly; about 1500 records a year

Price: No price available

Not available at Alberta Education Library

BRITISH EDUCATION INDEX

Type: Reference (Bibliographic)

Subject: Education & Educational Institutions

Producer: The British Library

Online Service: BLAISE-LINE

Conditions: Annual subscription of 45 pounds (UK) for U.K. users or 52 pounds (UK) for other users to BLAISE-LINE required

Content: Contains citations to the British literature on education, including adult education, truancy, teacher training, sociological perspectives, child psychology, curriculum, and all aspects of primary, secondary, tertiary, and further education. Corresponds to the "British Education Index".

Language: English

Coverage: U.K.

Time Span: 1976 to date

Updating: Monthly

Price: No price available

Not available at Alberta Education Library

CANADIAN BUSINESS AND CURRENT AFFAIRS

Type: Reference (Bibliographic)

Online Service: Dialog, Can/OLE

Producer: Micromedia Ltd., Toronto, Ontario

Content: Provides indexing to more than 100,000 articles/year appearing in 170 Canadian business periodicals and 10 newspapers. From the business perspective, the file provides descriptive annotations on a wide range of company, product, and industry information. From the current affairs perspective, CANADIAN BUSINESS AND CURRENT AFFAIRS covers significant national, provincial, and local news, editorials, selected letters to the editor, government activities, labor news, crime, sports, obituaries, biographies, and reviews.

Time Span: July 1980 - present

Updating: Monthly

Price: $72.00/online connect hour, $0.20/full record printed offline.

CANREG

Type: Reference (Bibliographic, Referral)

Subject: Biographies; Research in Progress; Social Sciences and Humanities

Producer: The University of Western Ontario, Social Science Computing Laboratory

Online Service: CISTI

Conditions: Accessible only in Canada

Content: Contains professional information on more than 5200 Canadian social scientists. Covers researchers in the traditional social sciences (e.g., economics, political science, education) and in such related fields as social work and management science. Each record provides biographical information, including position, organization, discipline, areas of specialization, language skills, and current lines of research; up to 6 bibliographic references to the researcher's most current or most important publications; and information on current research projects, including title and description of project, time period covered, unpublished status reports, and principal investigator and associates. Source of data is the CANADIAN REGISTER OF RESEARCH AND RESEARCHERS IN THE SOCIAL SCIENCES database maintained by the Social Science Computing Laboratory and covering over 8400 researchers, 7300 research projects and 22,000 publications.

Language: English

Coverage: Canada

Time Span: Current Information

Updating: Quarterly

Price: $40.00/online connect hour plus $10.00 in Royalties, $0.10/full record printed offline plus $0.035/offline print charge.

CANSIM (CANADIAN SOCIO-ECONOMIC INFORMATION MANAGEMENT SYSTEM)

Type: Source (Numeric)

Subject: Economics-Canada

Producer: Statistics Canada, CANSIM Division

Online Service: Statistics Canada provides direct service through its host contractor, Industrielle-Services Techniques Inc. Also available through secondary distributors. Served through ASIST at Alberta Education Library.

Now includes the Cansim Summary Data System and Cansim Cross-Classified Database covering census data and socio-economic data.

Content: MAIN BASE. Contains approximately 400,000 weekly, monthly, quarterly, and annual time series related to the internal activities and external trade of Canada. The MAIN BASE is maintained by Industrielle-Services Technique, Inc.

MINI BASE. A number of secondary distributors, including those identified above, provide access to the MINI BASE, a subset of the MAIN BASE that contains

approximately 25,000 time series. The MINI BASE covers national accounts; prices and price indexes; labor; manufacturing and primary industries; capital and finance; construction; merchandising and services; external trade; transportation; agriculture and food; population; and health and welfare. Each distributor may also provide access to additional series selected from the MAIN BASE.

TELICHART. Contains approximately 30,000 times series corresponding to the MINI BASE and 5000 supplementary series selected from the MAIN BASE. Users can perform statistical analyses and generate color graphs for display on NAPLPS-compatible terminals.

NOTE: Coverage of the MAIN and MINI BASES is reviewed regularly by Statistics Canada, and additions and deletions are made on the basis of usage and user reports. Data correspond to those found in a variety of government publications, e.g., "Canadian Statistical Review".

Coverage: Canada

Time Span: 1946 to date, with earlier data from 1914

Updating: Daily updates reflect changes and new information released by Statistics Canada on the current working day. The MINI BASE is also updated daily, within one working day of the data being available on the MAIN BASE.

Price: Billing by function and miscellaneous charges.

CATSS (CATalogue Support System)

Type: Reference (Bibliographic)

Subject: Library Holdings-Catalogs

Producer: UTLAS Inc. and over 375 member libraries (primarily in Canada)

Online: UTLAS Inc., Toronto, Canada

Content: A database system that supplies technical support services and products to libraries for shared cataloging (including authority control), interlibrary loan services, acquisitions, reference, and online catalogs. The database comprises over 24 million cataloging records from the U.S. Library of Congress, U.S. National Library of Medicine, National Library of Canada, Bibliotheque Nationale du Quebec, The British Library, Universite Laval, CONSER, and other source agencies. Also includes original cataloging records and order records from member libraries and book trade databases from such organizations as R.R. Bowker Company (see BOOKS IN PRINT) and the Canadian Telebook Agency. Covers books, serials, audiovisual materials, music, maps, manuscripts, and computer-readable databases.

Language: Primarily English and French, with over 70 other languages represented

Coverage: International

Time Span: 1968 to date, with some earlier materials

Updating: Continuously, throughout the day.

CODOC (COOPERATIVE DOCUMENTS PROJECT)

Type: Reference (Bibliographic)

Subject: Government-Canada; Library Holdings - Catalogs

Producer: University of Guelph Library

Online Service: CISTI

Content: Contains about 700,000 citations to the combined government publications collections of 11 Ontario university libraries participating in the Cooperative Documents Program. Covers the publications of the Canadian federal and provincial government; U.S. federal and state governments; the governments of France, Germany, U.S.S.R., England, and the Commonwealth countries; and the United Nations and its agencies, e.g., UNESCO, WHO. Also includes research and technical reports either issued by government agencies or sponsored through government grants.

Language: English

Coverage: International

Time Span: 1901 to date, with earliest records from the 1600s

Updating: About 6000 records every 2 months

Price: $40.00/online connect hour plus $5.00/online connect hour Royalties, $0.035 per offline print charge.

COMPENDEX (Computerized Engineering Index)

Type: Reference (Bibliographic)

Subject: Engineering

Producer: Engineering Information, Inc.

Online Service: BRS; BRS/Saunders Colleague (a special BRS service); Centre de Documentation de l'Armement (CEDOCAR); CISTI; DATA-STAR; DIALOG Information Services, Inc.; ESA-IRS; INKA Karlsrube; Knowledge Index (a special DIALOG service) (ENGINEERING LITERATURE INDEX); Pergamon InfoLine; SDC Information services; TECH DATA (a special BRS/IHS service); University of Tsukba.

Content: Contains citations, with abstracts, to the worldwide literature (excluding patents) in engineering and technology. Fields of engineering include: civil, water and waterworks, sanitary and waste, bioengineering, geology and mining, petroleum, metallurgical, mechanical, industrial, aerospace, automotive, marine, railroad, electrical, electronics and communications control, chemical, and agricultural. Related subject areas covered include construction materials, properties and testing of materials, transportation, pollution, ocean and underwater technology, nuclear technology, fluid flow, heat and thermodynamics, computers and data processing, light and optical technology, sound and acoustical technology, food technology, applied physics, instruments, and measurements. Conference review records contain conference code numbers which are links to complete coverage of all papers in Ei Engineering Meetings Corresponds to "The Engineering Index Monthly".

Price: $18.00/online connect hour plus $25.00/online connect hour in Royalties, $0.22/citation offline.

COMPUTER DATABASE

Type: Reference (Bibliographic)

Subject: Communications and Telecommunications; Computers and Computer Industry; Electronics.

Producer: Information Access Co. (formerly produced by Management Contents)

Online Service: DATA-STAR; DIALOG Information Services, Inc.; Knowledge Index (a special DIALOG service)

Content: Contains approximately 70,000 citations, with abstracts, to literature covering computers, the computer industry, and related fields, including telecommunications and electronics. Topics covered include business and industry applications; computer games and graphics; consumer information; database management systems; hardware and software design, development, and reviews; peripherals; home computers; new products; performance evaluations; programming languages; operating systems; phototypesetting; and word-processing. Also include descriptive and financial information on companies in this industry. Covers over 650 publications, including journals, books, tabloids, newsletters, research reports, and course materials.

Price: $85.00/online connect hour, $0.45/offline print charge, $0.35/online print charge/citation.

DIRECTORY OF EDUCATION RESEARCH AND RESEARCHERS IN AUSTRALIA (DERA)

Type: Reference (Bibliographic, Referral)

Subject: Education and Educational Institutions-Directories; Research in Progress

Producer: Commonwealth Department of Education and Youth Affairs

Online Service: ACI Computer Services

Conditions: Monthly minimum of $25 (Australian) to ACI for access to all AUSINET databases.

Content: Contains about 700 references to Australian researchers in education. Provides name, address, institutional affiliation, fields of interest, completed research, current research, and citations to publications. Corresponds to "Directory of Education Research and Researchers in Australia".

Language: English

Coverage: Australia

Time Span: October 1981 to date, with information on previous research from 1977 to date.

Updating: Every 2 years

Price: No price available.

Not available through Alberta Education Library.

DISSERTATION ABSTRACTS ONLINE

Type: Reference (Bibliographic)

Subject: Dissertations

Producer: University Microfilms International

Online Service: BRS; BRS/Saunders Collegue (a special BRS service); DIALOG Information Services, Inc.; University of Tsukuba

Content: Contains citations, with abstracts (since 1980), to all dissertations accepted for doctoral degrees by accredited U.S. educational institutions and over 200 non-u.S. institutions. Corresponds to the coverage in Dissertation Abstracts International (DAI), American Doctoral Dissertations (ADD), and Comprehensive Dissertation Index. On DIALOG, the database also contains citations to masters' theses corresponding to the coverage in Masters Abstracts (MA).

Language: English

Coverage: International

Time Span: DAI and ADD, 1861 to date; MA, 1962 to date

Updating: About 2500 DAI records a month and 3000 ADD records a year; 600 MA records added quarterly.

Price: $72.00/online connect hour; $0.25/offline print charge, $0.05/online print charge.

DOE ENERGY

Type: Reference (Bibliographic)

Subject: Energy

Producer: U.S. Department of Energy (DOE), Office of Scientific and Technical Information.

Online Service: DIALOG Information Services, Inc. (DOE ENERGY); INKA Karisruhe (DOE ENERGY); Mead Data Central (as a REFERENCE SERVICE database); U.S. Department of Energy, RECON (ENERGY DATA BASE)

Conditions: This database accessible through DIALOG and Mead Data Central (subscription to LEXIS or NEXIS required) only in the U.S.; through INKA only in some European countries by specific bilateral agreement; and through the U.S. Department of Energy (DOE) only to staff and contractors of the DOE (other government agencies with energy-related programs may also be granted access).

Content: Contains about 1.3 million citations, with abstracts (since June 1976), to literature in all fields of energy. Covers all unclassified technical information processed by the DOE Technical Information Centre in Oak Ridge, Tennessee. Includes information announced in the following publications: Energy Abstracts for Policy Analysis, Energy Research Abstracts, Coal Abstracts, Biomass Abstracts, INIS Atomindex (from 1976 on), and Current Energy Patents. Also covers U.S. Department of the Interior, Bureau of Mines publications on energy since 1910, publications of the DOE Energy Information Administration (EIA), publications of the IEA Coal Information Service (see COAL DATA BASE) and the IEA Biomass Conversion Technical Information Service, and unpublished German research reports from World War II on coal gasification and liquefaction processes. Covers topics of interest to DOE, including advanced automotive propulsion systems; biomedical sciences; chemistry; coal; controlled thermonuclear research; electric research; electric power engineering; energy conservation, consumption, and utilization; energy conversion, management, and storage; engineering; aquatic, atmospheric, and terrestrial environmental studies; economic-social aspects of energy technologies; explosions and explosives; fission and fusion fuels; geosciences; geothermal energy; health and safety; hydroenergy; hydrogen; instrumentation; isotope and radiation source technology; materials; natural gas; nuclear power plants; nuclear reactor technology; oil shales and

tar sands; other synthetic and natural fuels; particle accelerators; petroleum; physics research; solar energy; super computers; tidal power; and wind energy.

Language: English

Coverage: International

Time Span: 1974-to date, with some materials from the late 1800s

Updating: About 15,000 records a month

Price: $40.00/online connect charge, $0.15/offline print charge

ECONOMIC LITERATURE INDEX

Type: Reference (Bibliographic)

Subject: Economics

Producer: Journal of Economic Literature, American Economic Association

Online Service: DIALOG Information Services, Inc.

Content: Contains about 105,000 citations, with some abstracts (about 25%), to articles from approximately 270 economics journals. In 1985, citations will be added for about 200 collected works/year beginning with 1979. Topics covered include general economics, theory, history, systems, and development; quantitative economic methods and data; domestic monetary and financial theory; business finance and investment; marketing, accounting, labor, population, and consumer economics; and urban and regional economics. Corresponds in part to the quarterly Journal of Economic Literature and to the annual Index of Economic Articles.

Language: English, with titles in original languages

Coverage: International

Time Span: 1969 to date

Updating: About 2000 records a quarter

Price: $75.00/online connect hour, $0.1 offline print charge

EDLINE

Type: Source (Full Text)

Subject: Education & Educational Institutions

Producer: National School Public Relations Association (NSPRA)

Online Service: THE SOURCE

Conditions: Annual subscription fee of $150 for network subscribers and $225 for non-network subscribers to NSPRA required

Content: Contains current information of interest to school administrators, state and district school superintendents, and public information officers on such topics as education news, federal legislation and funding, regulations, court decisions, curricula, classroom and school management tips, and communications tips. Also covers state education news provided by state education groups and news and information from national agencies. Includes the results of polls that are taken weekly among subscribers on topics in which they express interest. Also permits users to exchange

information through electronic mail. Corresponds in part to the weekly newsletter Education USA.

Language: English

Coverage: U.S.

Time Span: March 1981 to date

Updating: Twice a day

Price: $150.00/year for network subscribers, $225/year for non-network subscriber

EDUCATION DAILY ONLINE

Type: Source (Full Text)

Subject: Education & Educational Institutions

Producer: Capitol Publications, Inc.

Online Service: SpecialNet

Conditions: Annual subscription of $363 to Capitol Publications required

Content: Contains full text of selected items from Education Daily, covering state and federal policies, legislation, and funding of education programs. Also contains news of court cases, civil rights issues, special education, research, and administration.

Language: English

Coverage: U.S.

Time Span: Most current 3 months

Updating: Daily

Price: $0.007/message, $0.05/character unit, $0.05/multiple copy charge; $23.00 (U.S.)/online connect hour, $200.00/subscriptions

EDUCATION INDEX

Type: Reference (Bibliographic)

Subject: Education & Educational Institutions

Producer: The H.W. Wilson Company

Online Service: WILSONLINE

Content: Contains about 50,000 citations to articles, interviews, selected editorials and letters to the editor, and reviews of books, educational films, and software from approximately 350 English-language periodicals, monographs, and yearbooks in the field of education. Covers school administration; pre-school, elementary, secondary, higher, and adult education; counseling and personnel services; teacher and vocational education; and teaching methods. Also covers a wide variety of individual curriculum areas, including the arts, comparative and international education, health and physical education, language and linguistics, library and information science, multi-cultural and ethnic education, psychology and mental health, religious education, science and mathematics, social studies, special education and rehabilitation, and educational research. Corresponds to Education Index.

Language: English

Coverage: International

Time Span: September 1983 to date

Updating: Twice a week; about 3000 records a month.

Price: $25.00 - $45.00/online connect hour, $0.20/offline citation charge

EDUCATIONAL RESEARCH FORUM (Ed R & D)

Type: Source (Full Text, Software)

Subject: Education & Educational Institutions

Producer: Mid-Western Educational Research Association

Online Service: CompuServe Consumer Information Service; CompuServe Executive Information Service

Content: Contains user-submitted articles for educational researchers, teachers, counselors and school administrators in such areas as curriculum and instruction, administration, learning and cognition, teacher and professional education, statistics and research methodology, human development and counseling, special education, motivation, education in the medical professions, and evaluation and measurement. Users can download statistical software packages and submit messages, questions, and comments through an electronic bulletin board.

Language: English

Coverage: U.S.

Time Span: October 1983 to date

Updating: Periodically, as new data become available

Price: No price available

Not available through Alberta Education Library.

Ei ENGINEERING MEETINGS

Type: Reference (Bibliographic)

Subject: Conferences & Meetings; Engineering

Producer: Engineering Information, Inc.

Online Service: Centre de Documentation de l'Armement (CEDOCAR) (Ei engineering meetings); CISTI (EiM); DATA-STAR (EiEM); DIALOG Information Services, Inc. (Ei ENGINEERING MEETINGS); ESA-IRS (Ei ENGINEERING MEETINGS); SDC Information Services (EiMET)

Content: Contains citations, with abstracts (since January 1985), to published proceedings from approximately 2000 engineering and technical conferences, symposia, meetings, and colloquia held worldwide. Each meeting is referenced in a main record; all papers are referenced individually. Each record includes a complete bibliographic reference, conference sponsor and location, language, date held, and assigned index terms. Covers a wide variety of engineering disciplines including civil, environmental, geological, bioengineering, electrical and electronics, mechanical, nuclear, agricultural and food, metals and mining, industrial management, petroleum and fuel, control devices and principles, communication engineering, applied

mathematics and physics, automotive, and aerospace. Beginning in July 1982, review abstracts of conferences are also contained in COMPENDEX. Corresponds to Engineering Conference Index.

Language: Primarily English, with about 25% of the papers in other languages

Coverage: International

Time Span: July 1982 to date, with selective coverage of meetings from 1979 to June 1982

Updating: About 9000 records a month; total of about 2000 meetings a year.

Price: $99.00/online connect hour, $0.47/offline print charge, $0.35/online print charge

ENERGY (ENG)

Type: Reference (Referral)

Subject: Energy, Research in Progress

Producer: Energy, Mines & Resources Canada, Renewable Energy Division (Canada)

Online Service: QL Systems Limited

Content: Contains descriptions of completed and ongoing energy conservation and alternative energy development and demonstration projects in Canada.

Language: English and French

Coverage: Canada

Time Span: Current and completed projects

Updating: Irregularly

Price: $75.00/online connect hour, weekends and p.m., $30.00/online connect hours, $3.00/1,000 lines printed offline.

ENERGY INFORMATION RESOURCES INVENTORY

Type: Reference (Referral)

Subject: Energy; Information Systems & Services-Directories

Producer: U.S. Department of Energy (DOE), Office of Scientific and Technical Information

Online Service: U.S. Department of Energy, RECON

Conditions: Available only to staff and contractors of the U.S. Department of Energy; other government agencies with energy-related programs may also be granted access.

Contents: Contains descriptions of state and federal sources of energy information that are funded by the U.S. Department of Energy. Includes DOE information centers, libraries, program offices, and operations offices; national laboratories and other contractor organizations; state energy offices and energy extension services; territorial energy offices and energy extension services; and all affiliated programs. Descriptions cover databases, online retrieval systems, serial publications, newsletters, hotlines, and facsimile transmission devices available in each organization, as well as the availability of interlibrary loan service and any

restrictions on use of the source. Corresponds to Resource Directory of DOE Information Organizations.

Language: English

Coverage: U.S.

Time Span: Current information

Updating: Every 2 weeks, with all information verified annually

Price: No price available

Not available through Alberta Education Library.

ENERGY PROGRAMS (ENP)

Type: Reference (Referral)

Subject: Energy; Research in Progress

Producer: Energy, Mines & Resources Canada, Renewable Energy Division (Canada)

Online Service: QL Systems Limited

Content: Contains descriptions of current Canadian government energy-related programs. In addition to a title and brief description of each program, records identify the Ministry or Ministries involved with the program and the person or organization to be contacted for further information.

Language: English and French

Coverage: Canada

Time Span: Current programs

Updating: Irregularly

Price: $75.00/online connect hour prime time, $30.00/online connect hour weekends and evenings, $3.00/1,000 lines printed offline

ENERGYLINE

Type: Reference (Bibliographic)

Subject: Energy

Producer: EIC/Intelligence Inc.

Online Service: DIALOG Information Services, Inc.; ESA-IRS; SDC Information Services

Content: Contains citations (with abstracts, from 1975) to literature relating to energy issues and problems. Aspects of the area that are covered include economics; government policy and planning; international political and economic issues; research and development; petroleum, natural gas, and coal resources and reserves; solar energy; unconventional energy sources; electric, nuclear, and thermo-nuclear power; fuel production, transport, and storage; consumption; conversation; and environmental impact. Covers all types of published literature with emphasis on non-serial documents. Contains all energy-related citations from Environment Abstracts that appeared during 1971-1975. Corresponds to Energy Index (1971-1976) and Energy Information Abstracts since 1976.

Language: English

Coverage: International

Time Span: 1971 to date

Updating: About 400 records 1 month

Price: $95.00/online connect hour, $0.30/offline print charge, $0.20/online print charge

ENERGYNET

Type: Reference (Referral)

Subject: Information Systems & Services-Directories; Energy Industry

Producer: EIC/Intelligence Inc.

Online Service: DIALOG Information Services, Inc.; ESA-IRS

Content: Provides information on over 2500 energy-related organizations; federal and state energy offices and agencies; congressional committees, subcommittees and support offices; municipal agencies, trade and professional associations; public interest groups; research centers; research and development firms; electric and nuclear utilities; oil, coal, gas, alternative energy, and consulting companies; and leading energy-consuming companies. Each record contains the organizations's name, address, telephone number, names of parent and subsidiary organizations and chief officers, publications and products, and a descriptive paragraph that includes financial information, when available. Corresponds to The Energy Directory.

Language: English

Coverage: U.S.

Time Span: 1983 only

Updating: Not updated

Price: $95.00/online connect hour, $0.50/offline print charge, $0.30/online print charge

ENVIRONMENTAL FORUM

Type: Reference (Bibliographic, Referral); Source (Full Text)

Subject: Environmental

Producer: Dana M. Armitage

Online Service: CompuServe Consumer Information Service; CompuServe Executive Information Service

Content: Contains full text of journal articles and newspaper stories, as well as original items, covering environmental issues in the U.S. Includes information on current topics (e.g., endangered species) and existing and pending government regulations and legislation; product reviews (e.g., computer hardware and software, environmental monitoring and sampling equipment); and book reviews. Bibliographic information is provided for journal articles and newspaper stories. Also includes a directory of Forum members, providing name, location, and areas of interest. Some information is provided by users who contribute items through an electronic bulletin board.

Language: English

Coverage: U.S.

Time Span: March 1983 to date

Updating: Periodically, as new data become available

Price: No price available.

ENVIRONMENTAL BIBLIOGRAPHY

Type: Reference (Bibliographic)

Subject: Environment

Producer: Environmental Studies Institute

Online Service: DIALOG Information Services, Inc.

Content: Contains citations to literature on the environment, including water, air, soil, and noise pollution, solid waste management, health hazards, urban planning and other related topics. Corresponds to Environmental Periodicals Bibliography.

Language: English

Coverage: U.S.

Time Span: 1973 to date

Updating: About 4000 records every 2 months

Price: $60.00/online connect hour, $0.15/offline print charge.

ERIC (Educational Resources Information Centre)

Type: Reference (Bibliographic)

Subject: Education and Educational Institutions

Producer: U.S. Department of Education, National Institute of Education

Online Service: BRS; BRS After Dark (a special BRS service); BRS/Saunders Colleague (a special BRS service); DIALOG Informaton Services, Inc.; Knowledge Index (a special DIALOG service); SDC Information Services; University of Tsukuba

Content: Contains citations, with abstracts, to both the journal and report literature in the field of education and education-related areas. Journal literature corresponds to Current Index to Journals in Education (CIJE). Report literature covering significant research and funded projects in education corresponds to Resources in Education (RIE). Subjects covered include career, adult, vocational, technical, and teacher education; education of the handicapped, disadvantaged, and the gifted; early childhood education; junior colleges and higher education; reading and communication skills; language and linguistics; education management; counseling and personnel services; information resources; urban education; rural education and small schools; science, mathematics and environment; social studies and social sciences; and tests, measurement, and evaluation.

Language: English

Coverage: Primarily U.S.

Time Span: RIE, 1966 to date; CIJE, 1969 to date

Updating: About 1200 RIE and 1400 CIJE records/month

Price: $25.00/online connect hour; $0.10/offline print charge.

EUDISED (European Documentation and Information System for Education)

Type: Reference (Referral)

Subject: Education and Educational Institutions

Producer: Council of Europe, Documentation Centre for Education in Europe

Online Service: ESA-IRS

Content: Contains approximately 5600 references, with summaries, to recently completed and ongoing educational research in 18 European countries. Covers educational institutions, curricula, management, and personnel; teaching methods and aids, student work, and the teaching profession; psychology, sociology, and philosophy of education; physiology and health; buildings and equipment; economics, public administration and planning; and education documentation and information. Each reference contains the date, researcher name and institution; a summary of study objectives, methods, research sample; results (for completed research projects); and publications resulting from the research. Corresponds to EUDISED R & D Bulletin.

Language: Titles in original language and either English or French; abstracts in English, French, or German; abstracts in English, French, or German; descriptors in English, French, German, Dutch, and Spanish.

Coverage: Western Europe, including Yugoslavia

Time Span: 1975 to date

Updating: About 250 records a quarter

Price: $56.00/online connect hour, $0.20/offline print charge.

FEDERAL RESEARCH IN PROGRESS (FEDRIP)

Type: Reference (Referral)

Subject: Research in Progress

Producer: National Technical Information Service

Online Service: DIALOG Information Services, Inc.; Mead Data Central (as a REFERENCE SERVICE database)

Conditions: Records from the National Aeronautics and Space Administration and U.S. Department of Energy are available in the U.S. only; subscription to Mead Data Central's LEXIS or NEXIS required for access through Mead Data Central.

Content: Contains descriptions of and references to research in progress and recently completed research sponsored primarily by federal government agencies. Covers basic and applied research in all areas of the life, physical, social, behavioral, and engineering sciences. All records include title, principal investigator, performing organization, and sponsoring organization. Contributing agencies include the U.S. Department of Agriculture, U.S. Department of Energy, National Aeronautics and

Space Administration, National Bureau of Standards, National Institute of Occupational Safety and Health, National Institute of Health, U.S. Geological Survey, Veterans Administration, and the Transportation Research Board (a private organization supported by public and private funds).

Language: English

Coverage: Primarily U.S.

Time Span: Current information (see SSIE CURRENT RESEARCH for historical information on may projects)

Updating: Twice/year

Price: $48.00/online connect hour, $0.20/offline or online print charge.

GPO MONTHLY CATALOG

Type: Reference (Bibliographic)

Subject: Publishers & Distributors-Catalogs; Government-U.S. Federal

Producer: U.S. Government Printing Office

Online Service: BRS; BRS/Saunders Colleague (a special BRS service);

DIALOG Information Services, Inc.

Content: Contains citations to the publications of U.S. government agencies, including the U.S. Congress. Covers Senate and House hearings on bills and laws, as well as agency-sponsored studies, fact sheets, maps, handbooks, subject bibliographies, and conference proceedings. Subjects covered include agriculture, economics, energy, public affairs, taxation, law, health, consumer issues, and environment. Corresponds to Monthly Catalog of United States Government Publications.

Language: English

Coverage: U.S.

Time Span: July 1976 to date

Updating: About 2500 records/month.

Price: $35.00/online connect hour, $0.10/offline print charge

GPO PUBLICATIONS REFERENCE FILE

Type: Reference (Bibliographic)

Subject: Government-U.S. Federal; Publishers & Distributors-Catalogs

Producer: U.S. Government Printing Office (GPO), Superintendent of Documents

Online Service: DIALOG Information Services, Inc.; Knowledge Index (a special DIALOG service)

Content: Contains citations to about 24,000 public documents published by the executive, judicial, and legislative branches of the U.S. federal government and currently sold by the Superintendent of Documents. Also covers forthcoming and recently out-of-print publications. Publications from the executive branch include Presidential statements and agency annual reports, general information and operational reports, selected statistical series, technical reports, maps, administrative regulations, treaties and periodicals. Judicial publications include slip opinions,

reports, proceedings, and periodicals. Documents from the legislative branch include bills, hearings reports, committee and subcommittee publications, and laws. Publications from independent agencies and government corporations are also included. Major subject emphases correspond to the executive branch cabinet-level departments. Legislature branch documents cover all topics on which Congressional activity is focused. Records include availability, price, and GPO stock number. Corresponds to the microfiche GPO Sales Publication Reference File.

Language: English

Coverage: U.S.

Time Span: 1971 to date

Updating: Every 2 weeks; updates include changes in availability status.

Price: $35.00/online connect hour, $0.10/offline print charge

IBSEDEX

Type: Reference (Bibliographic)

Subject: Construction

Producer: Building Services Research and Information Association (BSRIA)

Online Service: Building Services Research and Information Association, ESA-IRS; Pergamon InfoLine

Content: Contains approximately 16,000 citations, with abstracts, to the world-wide literature on mechanical and electrical services in buildings, including heating, ventilation, air conditioning, lighting and power, plumbing and sanitation, communications and transport, and security. Also covers piping and ducting; fans and pumps; instruments and controls; heat recovery, heat transfer and fluid flow, alternative energy sources (e.g. solar, wind); dust, filtration, and air pollution; comfort and environment, noise and vibration, thermal insulation, corrosion, and humidity and condensation. Sources include journals, reports, conference papers, books, standards, and unpublished materials. Corresponds in part to International Building Services Abstracts.

Language: English

Coverage: International

Time Span: 1979 to date, with materials from 1966 to be added in the future.

Updating: Monthly; about 5000 records/year.

Price: $63.00/online connect hour, $0.30/online print charge, $0.11/offline print charge

FRANCIS: SCIENCES DE L'EDUCATION

Type: Reference (Bibliographic)

Subject: Education & Educational Institutions

Producer: Centre National de la Recherche Scientifique, Centre de Documentation Sciences humains (France) (CNRS/CDSH)

Online Service: Centre National de la Recherche Scientifique, Centre de Documentation, Sciences Humaines (France); Telesystemes-Questel

Content: Contains over 79,000 citations, about half with abstracts, to the world-wide literature on education. Covers history and philosophy of education; education and psychology; sociology of education; planning and economics; educational research; teaching methods; testing and guidance; school life; vocational training, and adult education and employment. Sources include periodicals, reports, dissertations, and monographs. Corresponds to the Bulletin Signaletique sciences humaines: section sciences de l'education (520).

Language: French, with keywords also in English

Coverage: International

Time Span: 1972 to date

Updating: About 1500 records a quarter

Price: No price available.

INDUSTRY AND INTERNATIONAL STANDARDS (STDS)

Type: Reference (Bibliographic)

Subject: Standards and Specifications

Producer: Information Handling Services (IHS)

Online Service: BRS; BRS/Saunders Colleague (a special BRS service); TECH DATA (a special BRS/IHS service)

Content: Contains citations to over 71,000 standards produced by U.S., other national, and international agencies and industry standards societies. Also contains references to standards of all societies included in the National Bureau of Standards voluntary engineering standards database. References can be retrieved by document number, title, subject classification (IHS locator code), society, document type, and American National Standards Institute (ANSI) approval indicator. Each record contains a reference to the cartridge and frame location in IHS's VSMF (Visual Search Microfilm Files), which contains the full text of the document.

Language: Primarily English, French and German

Coverage: International

Time Span: All currently active standards, with earliest data from 1920

Updating: Every 60 days

Price: $18.00/online connect hour, $30.00/online connect hour in Royalties, $0.10 per offline citation charge.

INSPEC

Type: Reference (Bibliographic)

Subject: Computer Science; Engineering, Physics

Producer: Institution of Electrical Engineers

Online Service: BRS; BRS/Saunders Colleague (a special BRS service); Centre de Documentation de l'Armement (CEDOCAR); CISTI; DATA-STAR; DIALOG Information Services, Inc.; ESA-IRS: INKA Karlsruhe; The Japan Information Centre of Science and Technology (JICST); Knowledge Index (a special DIALOG service); SDC Information Services; TECH DATA (a special BRS/IHS service); University of Tsukuba (no longer available through Japan Information Processing Service Co. Ltd.)

Content: Contains citations, with abstracts, to the worldwide literature in physics, electronics and electrical engineering, computers and control, and information technology. Primary coverage is of journal articles and papers presented at conferences, although significant books, technical reports, and dissertations are also included. Topics covered in physics include: mathematical and theoretical physics; electromagnetism and optics; quantum field theory and elementary particle physics; nuclear physics; atomic and molecular physics; gases, fluid dynamics, and plasmas; structural, thermal, mechanical, electrical, magnetic, and optical properties of condensed matter; geophysics; astronomy and astrophysics; and related interdisciplinary topics. Topics covered in electronics and electrical engineering include: circuits and electronics; electron devises and materials; electromagnetics and communication; instrumentation and measurement; and energy and power systems and applications. Topics covered in computers and control include: systems and control theory; control technology; computer programming and applications; and computer systems and equipment. Information technology topics include applications of modern communications and computing to the production, transmission, storage, and interpretation of visual, oral, and digitally encoded information. Hardware coverage include microcomputers and related peripherals. Corresponds to these publications: Physics Abstracts, Electrical and & Electronics Abstracts, Computer and Control Abstracts, and IT FOCUS: Information Technology Update for Managers.

Language: English

Coverage: International

Time Span: DIALOG and Tsukuba, 1969 to date; BRS, BRS/Saunders Colleague, DATA-STAR, and TECH DATA, 1970 to date; CISTI, 1970 to date with abstracts from 1982 to date; ESA-IRS and INKA, 1971 to date; CEDOCAR, 1972 to date; Knowledge Index and SDC, 1977 to date; JICST, 1981 to date.

Updating: About 16,000 records/month

Price: $30.00/online connect hour in Royalties plus $18.00/connect hour; $0.10/offline citation.

MANAGEMENT CONTENTS

Type: Reference (Bibliographic)

Subject: Administration and Management; Business & Industry

Producer: Information Access Co. (formerly produced by Management Contents)

Online Service: BRS (MANAGEMENT CONTENTS); BRS After Dark (a special BRS service) (MANAGEMENT CONTENTS); BRS/Saunders Colleague (a special BRS service) (MANAGEMENT CONTENTS) ; DATA-STAR (MANAGEMENT CONTENTS); DIALOG Information Services, Inc. (MANAGEMENT CONTENTS); Executive Telecom System, Inc. (as a HUMAN RESOURCE INFORMATION NETWORK database) (MANAGEMENT CONTENTS); KEYCOM Electronic Publishing (as a KEYFAX Interactive Information Service database) (MANAGEMENT CONTENTS); SDC Information Services (MANAGEMENT); THE SOURCE (Management Contents Ltd.)

Content: Contains citations, with abstracts, to the worldwide English-language literature in business and management from over 725 journals, proceedings, books, courses, newsletters, research reports, and tabloids. Topics covered include finance and economics (including accounting, banking and managerial economics); industry (including commodities and goods, production, industrial relations); and management and administration (including public administration, planning, decision science, human resource development, management philosophy, operations research, and marketing). Also includes coverage of over 100 journals on business law and taxation and course materials from business and management classes. Beginning in 1983, contains summaries of major research studies and other publications of the Employee Benefit Research Institute (EBRI) on pensions, health insurance, social security, Medicare and other publicly and privately provided employee benefits. Corresponds to coverage in the monthly publication Business Publications Index and Abstracts. On DIALOG, records are added daily to NEWSEARCH and are transferred to this database monthly.

NOTE: A subset of this database, Management Contents Ltd. covering 27 journals is available on THE SOURCE.

Language: English

Coverage: International

Time Span: September 1974 to date

Updating: About 4000 records/month

Price: $84.00/online connect hour, $0.53/record printed offline, $0.38/record online.

MEETING AGENDA

Type: Reference (Referral)

Subject: Conferences & Meetings

Producer: Commissariat a l'energie Atomique (CEA), Centre d'Etudes Nucleaires de Saclay

Online Service: Telesystemes - Questel.

Content: Contains announcements of congresses, conferences, meetings, workshops, exhibitions, and fairs worldwide in all areas of science, technology, and social science. Areas covered include aeronautics, agriculture, biology, medicine, chemistry, earth sciences, electronics, electrical engineering, energy materials, mathematics, engineering, equipment, missile technology, navigations, telecommunications, military science, physics, fuels, and space technology. Information is obtained from meeting announcements and programs.

Language: English and French

Coverage: International

Time Span: Forthcoming meetings for the next 2 to 3 years

Updating: Twice/month; about 8000 records/year.

Price: No price available.

MICROCOMPUTER INDEX

Type: Reference (Bibliographic)

Subject: Computers and Computer Industry

Producer: Database Service

Online Services: DIALOG Information Services, Inc.; Knowledge Index (a special DIALOG service)

Content: Contains citations, with abstracts, to reviews and commentaries on the use and applications of microcomputers and software packages. Covers over 75 microcomputer journals and popular magazines, including Byte, Practical Computing, InfoWorld, Personal Computing, MacWorld, and PC World. Includes general articles about microcomputers, book reviews, software reviews, discussions of applications in various settings, and descriptions of new microcomputer products. Corresponds to the bimonthly Microcomputer Index.

Language: English

Coverage: U.S. and U.K.

Time Span: 1981 to date

Updating: About 850 records/month

Price: $45.00/online connect hour, $0.15/offline print charge.

MICROLOG

Type: Reference (Bibliographic)

Subject: Research in Progress; Science & Technology; Social Sciences & Humanities

Producer: Micromedia Limited

Online Service: CISTI

Content: Contains references to Canadian research and report literature in all subject fields. Covers monographs, annual reports, and reports in series issued in English or French by the following types of organizations; all levels of government in Canada, research institutions, universities, laboratories, professional societies, corporations, consultants, and associations. Does not include commercially-published books or serials (other than annual reports, statistical reviews, and financial statements). Corresponds to Microlog Index.

Language: English or French

Coverage: Canada

Time Span: 1979 to date

Updating: About 1400 records/quarter

Price: $40.00/online connect hour, $20.00/online connect hour in Royalties, $0.035 per offline print charge, $0.10/offline print cost (or online).

NTIS (NATIONAL TECHNICAL INFORMATION SERVICE)

Type: Reference (Bibliographic)

Subject: Science and Technology

Producer: National Technical Information Service

Online Service: BRS; BRS After Dark (a special BRS service); BRS/Saunders Colleague (a special BRS service); Centre de Documentation de l'Armement (CEDOCAR); CISTI; DATA-STAR; DIALOG Information Services, Inc.; ESA-IRS; INKA Karlsruhe; The Japan Information Center of Science and Technology JICST); Knowledge Index (a special DIALOG service); Mead Data Central (as a REFERENCE SERVICE database); SDC Information Services; TECH DATA (a special BRS/IHS service).

Conditions: Subscription to Mead Data Central's LEXIS or NEXIS required for access through Mead Data Central.

Content: Contains over 1 million citations, most with abstracts, to unrestricted technical reports from U.S. and non-U.S. government-sponsored research, development, and engineering analyses. The unpublished U.S. reports are prepared by federal, state and local agencies and their contracts or grantees. Major areas covered include the biological, social, and physical sciences, mathematics, engineering and business information. Includes announcements of computer-readable software and data files, U.S. government-owned inventions, selected reprints, federally-sponsored translations, and some non-English-language reports. Corresponds to the biweekly publication Government Reports Announcements and Index (GRA 7 I) and in part to the weekly Abstract Newletters.

Language: English

Coverage: U.S.

Time Span: BRS, BRS After Dark, BRS/Saunders Colleague, CISTI, DATA-STAR, DIALOG, ESA-IRS, Knowledge Index, SDC, and TECH DATA, 1964 to date: CEDOCAR and INKA, 1974 to date; Mead Data Central, 1980 to date; JICST, 1981 to date.

Updating: BRS, BRS After Dark, ESA-IRS, INKA, CISTI, and TECH DATA, about 5000 records/month; all others, about 2600 records every 2 weeks.

Price: $48.00/online connect hour, $0.20/record offline, $0.15/citation typed offline.

OON (CISTI Catalogue)

Type: Reference (Bibliographic)

Subject: Library Holdings-Catalogs; Science & Technology

Producer: Canada Institute for Scientific and Technical Information

Online Service: CISTI

Content: Contains citations to the holdings of the CISTI library. Covers monographs, technical reports, and conference proceedings in all areas of science and technology.

Language: English

Coverage: International

Time Span: 1978 to date

Updating: About 2100 records every 2 weeks.

Price: $40.00/online connect hour, $0.035/offline print charge.

ONTARIO EDUCATION RESOURCES INFORMATION SYSTEM (ONTERIS)

Type: Reference (Bibliographic)

Subject: Education and Education Institutions

Producer: Ontario Ministry of Education (Canada)

Online Service: BRS; BRS After Dark (a special BRS service); BRS/Saunders Colleague (a special BRS service)

Content: Contains over 8000 citations, with abstracts, to educational research reports, curriculum guidelines, policy papers, and related materials prepared or sponsored by the Ministry of Education, the Ministry of Colleges and University, school boards, and other educational organizations and agencies in Ontario, Canada. Information provided on each document includes title, material type (e.g. report, correspondence course), language, author, corporate author, publication information, date, educational level, target population, special features and/or components, funding source, contact person, and availability.

Language: English or French, depending on the language of the original document

Coverage: Canada (Ontario)

Time Span: Primarily 1974 to date, with selected coverage of earlier materials

Updating: 3 times/year.

Price: $5/online connect hour in Royalties and $18.00/online connect hour, $0.05/online print charge, and $0.10/offline print charge.

PAIS INTERNATIONAL

Type: Reference (Bibliographic)

Subject: Economics; Social Science & Humanities

Producer: Public Affairs Information Service

Online Service: BRS; BRS After Dark (a special BRS service); BRS/Saunders Colleague (a special BRS service); DATA-STAR; DIALOG Information Services, Inc.

Content: Contains approximately 240,000 citations to literature on business and the social sciences with emphasis on contemporary social, economic, and political issues and the making and evaluating of public policy. Covers economics, business, finance, banking, government, public administration, demography, public policy, sociology, court decisions, statistics, political science, and international relations. Corresponds to PAIS Bulletin, which covers 800 English-language journals and 6000 non-serial publications (i.e., government documents, pamphlets, yearbooks, directories, reports of public and private agencies, and material from the U.S. Congress), and to PAIS Foreign Language Index, which covers 400 journals and 2000 non-serial publications in 5 languages (French, German, Italian, Portuguese, and Spanish).

Language: English

Coverage: International

Time Span: PAIS Foreign Language Index, 1972 to date; PAIS Bulletin, 1976 to date.

Updating: PAIS Bulletin, about 1600 records/month; PAIS Foreign Language Index, about 1750 records/quarter.

Price: $69.00/online connect hour, $0.30/full record printed offline, $0.20/full record typed or displayed online.

PLANEX (Planning Exchange Database)

Type: Reference (Bibliographic)

Online Service: Pergamon Infoline, Inc.

Content: Covers literature of interest to local authorities, planning consultants, surveyors and others. Categories covered include: physical planning, economic planning, social planning, housing, local government, and legislation. Information for PLANEX is drawn from more than 150 journals plus U.K. and European parliamentary questions, reports, research papers, policy statements, development plans, government circulars and statistics.

Period of Coverage: 1982 to date

Updating: Monthly

File Size: 7,500 records, approximately 300 records added/month.

Price: $110.00/online connect hour, $0.35/online display.

POPULATION BIBLIOGRAPHY

Type: Reference (Bibliographic)

Subject: Demographics and Population

Producer: University of North Carolina, Carolina Population Centre

Online Service: DIALOG Information Services, Inc.

Content: Contains citations to the literature on population research and studies in the areas of abortion, demography, migration, family planning, fertility and, as well, in the general areas of population education, and population research methodology. Covers monographs, journals, technical reports, government documents, conference proceedings, dissertations, and many unpublished reports on population studies. Database focuses on the socioeconomic as opposed to the biomedical aspects of population, and on developing countries and the U.S. Corresponds to CPC Microcatalog.

Language: English

Coverage: Primarily U.S.

Time Span: 1966 to 1984

Updating: Not updated

Price: $55.00/online connect hour, $0.10/full record printed offline.

SCHOOL PRACTICES INFORMATION FILE (SPIF)

Type: Reference (Referral)

Subject: Education and Educational Institutions

Producer: BRS

Online Service: BRS; BRS After Dark (a special BRS service); BRS/Saunders Colleague (a special BRS service)

Content: Contains descriptions of educational resource programs, practices, materials, and products from public organizations and commercial publishers. Covers

nationally-and state-validated or exemplary programs, special education programs and materials, school business practices, administrator and teacher inservice education programs, curriculum; materials in all subject areas and grade levels, audiovisual aids including films and videotapes, testing materials, and microcomputer educational software for all major brands of microcomputers. Each description contains availability, ordering and cost information.

Language: English

Coverage: U.S.

Time Span: 1970 to date

Updating: Monthly

Price: $18.00/online connect hour, $10.00/online connect hour in Royalties for SPIF members, $25.00/online connect hour in Royalties for non-members, $0.25/offline print charges for SPIF members, $0.50/offline print charges for non-members.

SOCIAL SCISEARCH

Type: Reference (Bibliographic)

Subject: Social Sciences and Humanities

Producer: Institute for Scientific Information

Online Service: BRS; BRS After Dark (a special BRS service); BRS /Saunders Colleague (a special BRS service) DIALOG Information Services, Inc.; DIMDI (no longer available through Tsukuba University)

Content: Contains over 1.2 million citations to significant articles from the 1500 most important social sciences journals worldwide and social sciences articles from 3300 journals in the natural, physical, and biomedical sciences. Covers anthropology, archaeology, area studies, business and finance, communications, community health, criminology, economics, demographics, education, ethnic group studies, geography, history, information and library science, international relations, law, linguistics, management, marketing, philosophy political science, psychology, psychiatry, sociology, statistics, and urban planning and development. Corresponds to Social Sciences Citation Index.

Language: English.

Coverage: International

Time Span: BRS, BRS After Dark, BRS/Saunders Colleague, and DIALOG, 1972 to date; DIMDI, 1973 to date.

Updating: About 9600 records/month

Price: $110.00/online connect charge for nonsubscribers, $75.00/online connect charge for subscribers, $0.20/offline print for nonsubscribers, $0.15/offline print for subscribers.

SOCIOLOGICAL ABSTRACTS

Type: Reference (Bibliographic)

Subject: Sociology

Producer: Sociological Abstracts, Inc.

Online Service: BRS; BRS After Dark (a special BRS Sservice); BRS/Saunders Colleague (a special BRS service); DATA-STAR: DIALOG Information Services, Inc.

Content: Contains citations, with abstracts (1973 to date), to articles from over 1200 journals and serial publications in the field of sociology and related disciplines in the social and behavioral sciences. Provides coverage of original research, reviews, discussions, monographic publications, theory, and conference reports in these areas; methodology and research; history and theory of sociology; social psychology and group interaction; culture and social structure; management and complex organization; social change and economic development; mass phenomena and political interactions; social differentiation; rural and urban sociology; sociology of the arts, religion and science; health and knowledge; demography and human biology; the family and social welfare; community development; policy; planning; forecasting and speculation; radical sociology; Marxist sociology; studies in violence, poverty and feminism; and environmental interaction.

Language: English

Coverage: International

Time Span: 1963 to date

Updating: About 1800 records 3 times/year

Price: $60.00/online connect hour, $0.30/full record printed offline, $0.20/full record typed or displayed online.

SSIE CURRENT RESEARCH

Type: Reference (Referral)

Subject: Research in Progress

Producer: National Technical Information Service

Online Service: DIALOG Information Services Inc.

Content: Contains descriptions of and references to research in progress and recently completed research sponsored primarily by federal government agencies. Also includes some research sponsored by state and local government, major foundations, individuals, and universities and colleges. Covers basic and applied research in all areas of the life, physical, social, behavioral, and engineering sciences.

Language: English

Coverage: U.S.

Time Span: 1978 to February 1982 (see FEDERAL RESEARCH IN PROGRESS for current information)

Updating: Not updated.

Price: $78.00/online connect charges, $0.20/offline print charges.

STANDARDS AND SPECIFICATIONS

Type: Reference (Bibliographic)

Subject: Standards and Specifications

Producer: National Standards Association

Online Service: DIALOG Information Services, Inc.; ESA-IRS

Content: Contains citations to government and industry standards, specifications and related documents. Covers over 102,000 U.S. Department of Defence (DOD) standards, specifications, military sheet form standards, Air Force-Navy Aeronautical Standards (ANs), Qualified Products Lists (QPLs) and handbooks, including 1400 NATO and related standards; 7600 U.S. General Services Administration (GSA)-standards, specifications, Commercial Item Descriptions (CIDs) and QPLs; and 27,300 U.S. standards developed by 432 private organizations such as the American Society for testing and Materials, Society of Automotive Engineers, Aerospace Industries Association, American National Standards Institute, and Underwriters Laboratories. Each record includes a title and identification number identifying the standards or specification, its issuing organization, Federal Supply Classification code (if applicable), and whether the document has been cancelled or superseded. A notation is included if designated as an American National Standard and adapted by the DOD. Also includes vendors of products and services conforming to the standard or specification.

Language: English

Coverage: U.S.

Time Span: Latest issue of all standards and specifications, most of which have been issued since 1950 (earliest date from 1920)

Updating: Monthly, with changes and additions

Price: $65.00/online connect hour, $0.30/offline print charges, $0.20/online print charges.

STATUTES OF ALBERTA

Type: Source (Full Text)

Subject: Law-Canada

Producer: Alberta Legislative Counsel Office (Canada)

Online Service: QL Systems Limited

Content: Contains full text of the Revised Statutes of Alberta, covering statutes and amendments in effect as of January 1984.

Language: English

Coverage: Canada (Alberta)

Time Span: Current Information

Updating: Twice/year

Price: $75.00/connect hour prime time, $30.00/connect hour weekends and evenings, $3.00/1,000 lines printed offline.

Note: Statutes of other provinces also available

UNESCO (United Nationals Educational, Scientific, and Cultural Organization)

Type: Reference (Bibliographic)

Producer: International Research and Development Corporation, Ottawa

Online Service: MINISIS

Content: Worldwide coverage of literature consisting of monographs, serials, reports, proceedings and unpublished documents written by or for UNESCO. These deal with a broad range of educational, scientific, and cultural programs with an increasing emphasis on development issues.

Language: Indexed in English

Coverage: 1970 to date

Updating: quarterly

Size: 30,000 references

Price: Free

All documents can be obtained from the University of Alberta.

2. PRINTED INDEXES (Not Available Online)

Bibliographic Guide to Government Publications: Foreign. Boston: G. K. Hall, 1975 -. Annual.

Lists materials catalogued during the past year by the Research Libraries of New York Public Library, with additional entries from Library of Congress. Includes department reports, censuses, statistical annuals and reports, journals and monographs relating to government agencies, publications of international and regional agencies, and state and provincial government publications.

Canadian Education Index. Canadian Education Association 1965-. Annual.

CEI is an author, subject index to a selected list of Canadian educational periodicals, books, pamphlets and reports, published 3 times between October and June including an annual cumulation.

In-house Reports of School Boards subscribing to the CEA Information Service. Toronto, Canadian Education Association.

Index to Current Urban Documents. Greenwood Press, Quarterly

Makes available the majority of the local government documents issued annually by the largest cities and counties in the United States and Canada. With the cooperation and assistance of local government officials, public libraries, municipal reference libraries and major research libraries, the program attempts to catalog and index documents issued by 286 of the larger cities, counties and regions. (Toronto is only city in Canada which is listed regularly). This is an index to the Urban Documents Microfiche Collection.

International Bibliography - Publications of Intergovernmental Organizations. UNIPUB.

Subject and title index to publications of international organizations, i.e. United Nations, OECD, ILO, etc.

Monthly Checklist of State Publications. Washington, D.C.: Government Printing Office, 1910-.

Includes publications of state departments of education and publications of other state agencies on education and education-related subjects. Monographs are listed by state and issuing agency. Publications of associations of state officials and of regional organizations, and library surveys, studies, manuals, and statistical reports are listed separately. Annual index.

3. ASSOCIATIONS AND RESEARCH INSTITUTIONS

ACADEMY FOR EDUCATIONAL DEVELOPMENT (AED)

680 Fifth Avenue
New York, NY 10019

Phone: (212) 397-0040
Alvin C. Eurich, Pres.

Founded: 1962. Staff: 150. Not membership organization. Nonprofit corporation serving schools, colleges, universities, government agencies, corporations, and other organizations concerned with education, communications, human development and international affairs. With the aid of consultants in specialized fields, the academy provides advisory, consultative, administrative and other services for these institutions to help them develop plans for the future and improve their operations; stimulates research, study and experimentation to improve the administrative and academic programs of educational systems and other institutions concerned with human welfare and makes available information contributing to the improvement of education and social services in the U.S. and abroad. Gives awards to colleges or universities that have developed new ways of meeting critical issues. Sponsors college executive placement service. Maintains offices in New York City and Washington, DC (Washington office houses a clearinghouse on development communications). Divisions: Aging; Communications; Educational Facilities; Executive Search; International; Management; School Services. Publications: (1) Newsletter, quarterly; (2) Annual Report; also publishes Report on International Education, Proceedings, negotiation of disputes between nations, educational management, aging, educational facilities, and other reports, books and papers.

AMERICAN ASSOCIATION OF SCHOOL ADMINISTRATORS (AASA)

1801 N. Moore St.
Arlington, VA 22209

Phone: (703) 528-0700
Paul B. Salmon, Exec. Dir.

Founded: 1865. Members: 19,000. Staff: 55. State Groups: 74. Professional association of administrative officers of boards of education; school district superintendents; central building and service unit administrators; presidents of colleges, deans, and professors of educational administration; placement officers; executive secretaries and administrators of education associations; heads of private schools. Sponsors numerous seminars annually including inservice seminars for administrators through the AASA National Academy for School Executives, and "dedicated to the continuing professional and personal development of school administrators". Distributes Project Teams workshop training materials to assist educators in developing full service programs for handicapped students. Presents awards; founder of Educational Research Service. Maintains 12 committees including: American Association of Educational Service Agencies; National Center; for Improvement of Learning; and Network for Outcome Based Schools. Publications: (1) the School Administrator, 11/year. (2) Report, annual; also publishes books, special reports, pamphlets and filmstrips. Absorbed: (1968) County Intermediate Unit Superintendents (of NEA). Formerly: (1870) National Association of School Superintendents (1907) Department of School Superintendence of the National Education Association; (1937) Department of Superintendence of the National Education Association. Convention/Meeting: annual - always February.

ASSOCIATION OF PHYSICAL PLANT ADMINISTRATORS OF UNIVERSITIES AND COLLEGES (APPA)

11 Dupont Circle, Suite 250 Phone: (202) 234-1662
Washington, DC 20036 Paul T. Knapp, Exec. Dir.
Founded: 1914. Members: 2300. Staff: 12. Regoinal Groups: 6. Education association whose institutional members are devoted to the development of professional standards in the administration, care, operation, planning, and development of physical plants (buildings, grounds, heat and power plants) used by colleges and universities. Maintains speakers bureau and placement service; conducts research programs; compiles statistics. Committees; Energy Conservation; Professional Affairs; Program; Recognition and Meritorious Awards; Research and Surveys; Workshops. Publications: (1) Newsletter, monthly; (2) Technical Papers, quarterly; (3) Proceedings, annual; also publishes reports, studies and books. Formerly: (1948) Association of Superintendents of Buildings and Grounds of Universities and Colleges; Association of Physical Plant Administrators; National Association of Physical Plant Administrators of Universities and Colleges. Convention/Meeting: annual - always May, June or July.

ASSOCIATION OF SCHOOL BUSINESS OFFICIALS OF THE UNITED STATES AND CANADA (ASBO)

720 Garden St. Phone: (312) 823-8320
Park Ridge, IL 60068 Donald G. Buch, Exec. Dir.
Founded: 1910. Members: 5503. Staff: 16. Regional Groups: 56. School business managers; assistant superintendents in charge of business; supervisors of accounting; directors of transportation, maintenance, food service, data processing, and operations; office managers; other school business officials. Educational Associates are school board members and others interested in business management; Business Associates are vendors providing products and/or services to schools. Sponsors a continuing program to encourage and recognize significant improvements in educational facilities that meet challenges of innovations in curriculum and teaching methods or changes in student population. Presents annual awards to architectural firms and schools. Maintains exhibitors scholarship program, professional registration program, and certificate of excellence program in financial report. Committees: Accounting; Data Processing; Federal Programs; Food Service; Insurance Managements; Junior and Community College; Legal Aspects; Maintenance and Operations; Management Techniques; Negotiations; Non-Public School Management; Office Management; Personnel Management; Purchasing and Supply Management; Safety; Small School Districts; State/Province Departments of Education; Student Activity; Transportation; University Contacts. Divisions: Accounting Research; School Facilities Council. Publications: (1) Newsletter, monthly; (2) School Business Affairs, monthly, with annual directory issues; (3) Research Bulletins, irregular; also publishes books on school business management. Absorbed: (1973) School Facilities Council of Architecture, Education and Industry. Formerly: (1943) National Association of School Business Officials. Convention/Meeting annual.

CANADIAN EDUCATION ASSOCIATION/ASSOCIATION CANADIENNE D'EDUCATION

252 Bloor St. West
Suite 8-200
Toronto, Ont. M5S 1V5

Phone: (416) 924-7721
Robert E. Blair, Exec. Dir.

Founded: 1892. Members: 1000. Staff: 19.
Publications: Education Canada, quarterly; CEA Newsletter, 9 times/year; CEA Handbook, annual; Le Bulletin, 9 times/year. Convention/Meeting, annual.

CENTER FOR ARCHITECTURAL RESEARCH, RENSSELAER POLYTECHNIC INSTITUTE

Phone: (518) 270-6441
Troy, NY 12181 Founded: 1965
Prof. Walter M. Kroner, Director
Governance: Integral unit of School of Architecture at Rensselaer Polytechnique Institute. Supported by U.S. Government, state governmental agencies, foundations, and universities. Staff: 4 research professionals, 2 supporting professionals, 3 technicians, 2 others.
Research Activities and Fields: Educational facilities planning, programming, and design, including studies on special facility types, educational technology facilities, building systems feasibility, fire protection and building codes, acoustics, modular coordination and construction industry economic functioning, and energy-conscious design.
Publications and Services: Research results published in professional journals, pamphlets and project reports. Holds occasional in-service workshops and seminars. Maintains an uncatalogued collection of 8000 pamphlets, articles, periodicals, and books on architecture, education, medicine and educational media.

CENTER FOR EDUCATIONAL POLICY STUDIES, UNIVERSITY OF MINNESOTA

300 Health Service Building
St. Paul, MN 55108
Dr. Charles H. Sederberg, Director

Phone: (612) 373-2251
Founded: 1948

Governance: Integral unit of College of Education at University of Minnesota, located on its St. Paul campus; formerly known as Bureau of Field Studies and Surveys. Supported by parent institution and contracts with school districts. Staff; 3 research professionals, 2 supporting professionals, 1 other.
Research Activities and Fields: All phases of education policy, including educational programs, school plants, enrollments, and finance. Also conducts school surveys under contract with specific school districts or other governmental agencies.
Publications and Services: Research results published in project reports.

CENTER FOR EDUCATIONAL RESEARCH AND FIELD SERVICES, NEW YORK UNIVERSITY

32 Washington Place, Room 51
New York, NY 10003
Dr. Arnold Spinner, Director
Phone: (212) 598-2898
Founded: 1948

Governance: Integral unit of School of Education at New York University; previously known as Center for Field Research and School Services. Supported by parent institution and research projects. Utilizes faculty and staff members of the School in conduct of research projects. Volume of research: 1979 - $5,500,000; 1980 - $6,000,000.

Research Activities and Fields: Education, including surveys for school districts and other educational agencies, analysis and evaluation of current conditions, and recommendations for modification. Also provides extensive consultant services for self-directed studies of local educational problems.

Publications and Services: Research results published in project reports. Holds periodic symposia, workshops, and institutes on a variety of educational issues and problems.

EDUCATIONAL RESEARCH COUNCIL OF AMERICA (ERCA)

Rockefeller Building
614 Superior Avenue W.
Cleveland, OH 44113
Phone: (216) 696-8222
Dr. George H. Basird, Pres. & Exec. Dir.

Founded: 1959. Research and development center for elementary and secondary education. Consists of four cooperating groups: a full-time professional and technical staff, including research and development specialists in subject-matter and pedagogy; a corps of scholars, serving as consultants; a board of trustees, consisting of civic and business leaders; and the participating school districts, consisting of pupils, parents, teachers, administrators, and school board members. Objectives are: to improve education continuously, especially elementary and secondary education, so that every individual can realize his own inherent worth and be able to contribute humanistically, socially and functionally to the betterment of mankind; to provide leadership for the educational community in finding the solutions to problems of education for our time and beyond; to identify the needs of learners; to develop learning experiences that will meet present and future needs of learners; to help schools develop and maintain an effective learning environment; to develop and maintain an organization exemplifying the best principles and practices of professional management; to respond to the best principles and practices of professional management; to respond to the needs of the schools as perceived by both the participating schools and the ERCA staff. Formerly: (1967) Educational Research Council of Greater Cleveland.

EDUCATIONAL FACILITIES LABORATORIES (EFL)

680 Fifth Avenue
New York, NY 10019
Phone: (212) 397-0040
Alan Green, Sr. V. Pres. & Dir.

Founded: 1958. Staff: 10. A division of the Academy for Educational Development. Established by The Ford Foundation to encourage research and experimentation in educational facilities. Disseminates information about school and college facilities. Current projects concern community school centers; energy

conservation for schools and social voluntary welfare agencies; processes and supporting materials for participatory community-based planning; arts in education advocacy; enrollment decline and the future of the high school; efficient management of higher education facilities; and community-based resources for education. Provides field services to aid public institutions in planning and managing physical resources. Publishes a variety of newsletters, reports and books on the results of research and development progams.

EDUCATIONAL PLANNING SERVICE, UNIVERSITY OF NORTHERN COLORADO

Greeley, CO 80639 Phone (303) 351-2862
Emmett A. Ritter, Interim Director Founded: 1958
Governance: Integral unit of University of Northern Colorado. Supported by parent institution, foundation grants, and contracts with educational institutions and school districts. Staff: 4 research professionals, 35 supporting professionals, 15 graduate student assistants, 4 others.
Research Activities and Fields: School administration, including studies on facility planning, curriculum evaluations and improvement programs, administrative organization, personnel policies, budget analysis, and any other educational or administrative problems of concern to school districts or collegiate institutions. Also provides an educational consulting service for client organizations and demonstration facilities for new developments in school furniture and equipment.
Publications and Services: Research results published in project reports and occasional monographs.

INTERNATIONAL AND DEVELOPMENT EDUCATION PROGRAM, UNIVERSITY OF PITTSBURGH

5A01 Forbes Quadrangle Phone: (412) 624-5575
Pittsburgh, PA 15260 Founded 1963
Dr. John Singleton, Director
Governance: Research activity of University of Pittsburgh. Supported by parent institution. Staff: 5 research professionals, 5 others.
Research Activities and Fields: Educational Planning, nonformal and adult education, anthropology of education, and comparative education, also cost/benefits and cost/effectiveness analyses of educational programs.
Publications and Services: Research results published in professional journals. Affiliated with IDEP Clearinghouse, a documentation center of ephmeral materials on educational development, policy, and planning worldwide. Maintains a reference library; Carmelita Lavayna Portugal, librarian.

NATIONAL ASSOCIATION OF SECONDARY SCHOOL PRINCIPALS (NASSP)

1904 Assocation Dr.
Reston, VA 22091

Phone: (703) 860-0200
Scott D. Thomson, Exec. Dir.

Founded: 1916. Members: 36,000. Staff: 50. State Groups: 60. Secondary school principals and assistant principals; other persons engaged in secondary school administration and/or supervision; college professors teaching courses in secondary education. Sponsors National Association of Student Councils, National Honor Society, and National Junior Honor Society. Maintains 14 committees including: Communications; International Programs; and National Association of Student Councils - Advisory. Publications: (1) Bulletin, 9/year; (2) NewsLeader, 9/year; (3) Student Advocate, 9/year; (4) Curriculum Report, 5/year; (5) Legal Memoranda, 5/year; (6) New Technology, quarterly; (7) The Practitioner, quarterly; (8) Schools in the Middle, quarterly; (9) Administrative Information report, irregular.

STANFORD UNIVERSITY SCHOOL PLANNING LABORATORY (SPL)

School of Education
Stanford, CA 94305

Phone: (415) 321-2300
Founded: 1950

Dr. James D. MacConnell, Director

Governance: Integral unit of School of Education at Stanford University. Supported by parent institution, foundations, and research contracts with governmental agencies, colleges, universities, elementary and secondary schools, school districts, and industry.
Staff: 12 research professionals, plus supporting personnel.
Research Activities and Fields: Improvements in the learning environment, including studies of school systems, campus planning, site selection, buildings and other educational facilities, space utilization, maintenance problems and business management also design of school equipment and furniture in cooperation with industry, development of building specifications, and population projections. Provides consultation services and serves as western regional center for Educational Facilities Laboratory and as clearinghouse for their grants in California and neighbouring states.
Publications and Services: Research results published in professional journals, monographs, manuals, and project reports. Publication: SPL Reports (quarterly). Holds annual school building institutes and workshops, also periodic specialized study workshops focused on local school and school district planning problems and building problems.

APPENDIX D

LETTER TO DR. JOHN KULBA FROM
SAME MOORE

October 14, 1985

Mr. John W. Kulba, Director
Alberta Education
School Buildings Services Branch
Devonian Building, 9th Floor, West Tower
11160 Jasper Avenue
Edmonton, Alberta T5K 0L2
CANADA

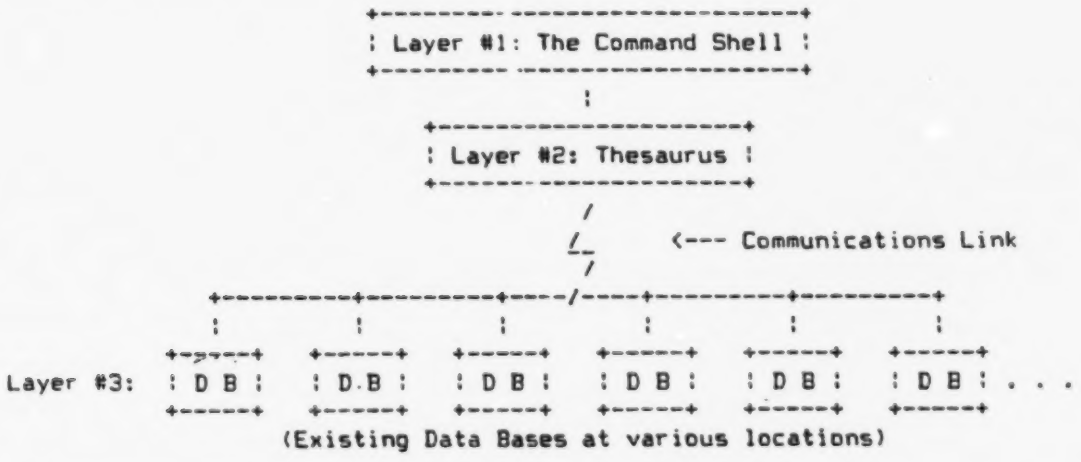
Dear Mr. Kulba:

This is to outline for you the approach we discussed for implementing an automated Data Base Management System (DBMS).

In order to accomplish this task in a manageable way, I recommend that the effort be divided into three separate stages:

1. Concept
2. System Analysis & Design
3. Programming & Implementation

The overall needs brought forth during our conversation seem to imply a layered system with a minimum of three levels.



This topology allows for two important considerations:

a. Some local systems already exist, each using diverse hardware and software, which would be costly to convert or replace.

b. Local needs may justify unique hardware and software choices.

Naturally, a system that had as many different sets of commands as it had separate data bases would be difficult to use, so I advise that a standardized command language be adopted. This outer "shell" would be the only visible interface to users dialing into the data base from remote locations. A middle layer called a THESAURUS would then automatically and transparently translate shell commands into the specific language of the local data base. This approach would help preserve local investment in systems and in the training of personnel, provide flexibility and still guarantee uniformity at the top.

DBMS SOFTWARE CONSIDERATIONS

The type of information that will be stored in the computer system should receive careful attention. Arithmetical information such as engineering data must be handled in a much different way, for example, than descriptive text, such as abstracts or complete articles from periodicals.

The education and understanding of the personnel who will be entering information into the system will also be an important factor governing the type of software acquisitions, and therefore, also the type of hardware acquisitions to be made. Will the material being input receive the careful attention of educated people or will it be entered by less sophisticated operators such as secretaries? Will the volume of input data create the need for mechanical forms of input such as optical page scanners?

The factors mentioned in the above two paragraphs alone could affect the bottom line cost of the overall system by several thousand dollars, even tens of thousands.

In broad terms, there are two types of data base software available today: indexed processors and full text processors. (Either can be arranged in a relational or a hierarchical format).

Most programming is of the indexing or cross indexed variety, so the quality of the ultimate results can be HIGHLY dependent upon the ability of the person doing the indexing of the material at the time of input. (GIGO - Garbage In, Garbage Out).

Some software is emerging, however, that can actually scan written paragraphs word-for-word and and make matches that an ordinary indexing system could not. For example, the words "car" and "automobile" would represent a match only in advanced text system containing the means for processing synonyms. Naturally, this capability adds cost, but that cost can be justified.

Your choice of software will also be influenced by the rapidity with which terminology changes within your own industry occur and by the consistency or lack of consistency with which data can be coded and entered.

Fortunately, computer costs are coming down constantly.

COMMUNICATIONS CONSIDERATIONS

The trend in modern computing systems is toward distributed processing. That is to say, most large computing resources being designed today are made up of several computers linked together via telephone rather than one giant central computer accessed with dumb terminals. Several factors support this trend.

1. Reliability. If the entire network is relying on one central computer and that goes out of service because of mechanical failure or weather conditions, such as a snow storm, then the entire network is down.

2. Cost. Large central computers require special facilities such as raised floors, air conditioning, power regulation and sophisticated personnel. Telephone charges for distributed systems tend to be less because there is less dependence on phone lines.

3. Quality. Information processing experts universally agree that data should be entered at its source. Large central systems tend to take the input process out of the hands of the people who create the information.

4. Expansion. Distributed systems are easier to expand because they are more modular.

ROADMAP

1. CONCEPT STAGE. In order to conceptualize the overall computing resource properly, an extensive number of interviews should be conducted with key people who will be involved with the creation, maintenance and use of the various data bases. Only after the types of information to be maintained are identified, and only after the realities of collecting and distributing that information are understood, can the foundation for a system design be committed to paper.

Once the type of information is pinpointed and the flow of that information is determined, the various components needed to handle the overall requirement can be combined to form a basic design concept.

The concept stage should be done with care as it is the basis for all other stages. It should be possible to complete the concept paper in approximately 4 to 6 weeks (160 to 240 man hours). At the established rate of $25 per hour for consulting services, approximately $4,000 to $6,000 should be budgeted for this purpose + expenses such as telephone and travel. One of the key items to be contained in the concept paper is a budget for completing the next stage: system analysis and design.

2. SYSTEM ANALYSIS & DESIGN. Once a possible solution has been expressed in the form of a concept, the practicality of the concept must be tested. In this stage, detailed flow charts must be created, specific hardware and software components evaluated and a precise design for each layer of the overall system committed to paper. Flaws in the original concept must be identified and if necessary the original concept reworked or rejected.

The system analysis & design stage is technical and tedious. Therefore, the budget for this stage will be signficantly greater than stage one. Twelve to sixteen weeks should be allowed for this stage. At $25 per hour, a budget of $12,000 to $16,000 + expenses should be set.

3. PROGRAMMING & IMPLEMENTATION. Once final design charts, detailed file layouts, flow diagrams, estimates for hardware and software, and the soundness of concepts have all been assembled and analyzed, then programming and installation work can begin. If the first two stages have been completed properly, programming & implementation should present no problems or surprises. Naturally, the budget for this stage can only be accurately set as part of the completion of stage #2. To place some perspective on this stage, however, it would not be unreasonable to assume, at the outset, that a programming effort of this nature would require from four to six months. This would equate to a software expenditure from $25,000 to $38,000. Hardware costs would be separate, but generally, software is about 25% of hardware.

If you would like to consider my firm for any or all of these stages, I would be happy to meet with you further to answer additional questions and initiate a work agreement.

Thank you for having included us in your thinking.

Sincerely yours,

Sam Moore

Dicelix

3182 Cranston Dr.
P.O. Box 920
Dublin, OH 43017

(614) 766-7007

APPENDIX E

ENET

Welcome to ENET, the Educational Network. ENET is a service of Alberta Education. ENET will allow participants to access information related to policies, finance, research, and other education-related matters.

In the coming months, ENET will provide a wealth of news and information which can easily be "downloaded" to computers in school jurisdiction offices.

For further information about ENET, please contact:

Wolfgang Schimeck
Computer Technology Inservice Consultant
Alberta Education
4th Floor, Devonian Bldg. East
11160-Jasper Avenue
Edmonton, Alberta
T5K 0L2 Ph: 427-2035

Messages can be sent via the MTS (U of A Computer) Message System to: COTE

--> ENET MAIN MENU (V 3.0) <--
Here is a list of items to see :

1 INTRO -- INTRODUCTION to ENET
2 HIGH -- Alta. Ed. HIGHLIGHTS
3 NEWS -- Alta. Ed. NEWS Releases
4 POLICY -- Alta. Ed. POLICIES & REGULATIONS
5 FINANCE -- Alta. Ed. FINANCIAL Information
6 RESEARCH -- Alta. Ed. RESEARCH Information
7 CURRICULUM -- Alta. Ed. CURRICULUM Information
8 ARCHIVE -- Previous Issues of ENET
9 MESSAGE -- Access the MTS MESSAGE system
0 QUIT -- TERMINATE the session

Enter the desired KEYWORD or #, then press Return
OR enter ? followed by Return for MENU
1

Enter the desired KEYWORD or #, then press Return
OR enter ? followed by Return for MENU
1

Welcome to ENET

==========

ENET is the Education Network, an electronic messaging and infor-

0 QUIT -- TERMINATE the session

Enter the desired KEYWORD or #, then press Return
OR enter ? followed by Return for MENU
1

Enter the desired KEYWORD or #, then press Return
OR enter ? followed by Return for MENU
1

Welcome to ENET

==========

ENET is the Education Network, an electronic messaging and information service of Alberta Education.

By "signing on" to ENET regularly, school jurisdictions will be able to receive up-to-date information on subjects such as Curriculum, Finance, Research, and Educational Policies/Regulations. In addition, the built-in message system allows users to exchange information with Alberta Education personnel and with school jurisdictions.

The appearance, content, and capabilities of ENET will evolve with the needs of its users. Feel free to use the messaging facility to contact the System Administrator with your comments and suggestions.

Tips for Using ENET

---

1. Try to sign on weekly. As the system begins to hold substantial amounts of information, it will be "swept clean" at roughly two-week intervals. The old information will be stored under the Bulletin Board heading entitled "Archive", but it is cheaper to page through a number of short information files than to search out information in the archives.

lights". This section will be updated frequently, and will direct you to other parts of ENET where new and important items have been added.

Equipment and Software Issues

1. Your terminal should have a printer so you can produce "hard copy" of items you retrieve from ENET. You might also want to ensure that your communications software has the ability to store incoming data in a file on a floppy or fixed disk. You can then use a word processor to incorporate ENET information into other documents.

2. You can use a word processor to write letters or memos which can be sent via the ENET message facility. You should make sure that your word processor can convert your document to ASCII text file formats. In addition, your communications software must be capable of awaiting a prompt character before sending a line of text. In the ENET message system, the prompt character is ">", so you should program your communications software to wait for ">" (omit the quotation marks). If your software requires you to enter the ASCII equivalent, the ASCII code for ">" is 62. Remember that once you have sent your document, you must still enter "$Endfile" to terminate the message.

ENET Updates

WHAT IS SPECIALNET?

SpecialNet is the largest education-oriented computer-based communication network in the United States. It is designed to provide up-to-the-minute information and instant communication for persons concerned with educational services and programs. SpecialNet includes:

- Electronic mail
- Electronic bulletin boards
- Data collection and information management

WHO IS ON SPECIALNET?

Every State Education Agency participates actively in SpecialNet. A number of states post information on electronic bulletin boards set up exclusively for their state. These state-specific bulletin boards are on line in more than 20 states at the present time. Other SpecialNet subscribers include school districts, state and federal offices, universities, special projects, and individual subscribers — located in all 50 states, Canada, and in other countries. The number of subscribers is growing daily.

WHAT IS ELECTRONIC MAIL?

Through electronic mail, you can send any type of printed information, such as memos, special reports, and forms, to any user or group of users. Messages are delivered to the users' electronic mailboxes in SpecialNet to be called for and read at their convenience in their office, at home, or while traveling. Each user selects a personal password which may be changed instantly at any time. Nobody can access someone else's electronic mail message without knowing the password.

WHAT IS AN ELECTRONIC BULLETIN BOARD?

An electronic bulletin board is similar to a typical office bulletin board, only it is more convenient and easier to use. SpecialNet offers national, state, and regional electronic bulletin boards with current education information available for subscribers to read. Subscribers can post messages on many of the bulletin boards at no additional charge. Current national electronic bulletin boards available on SpecialNet are listed on pages 4 and 5.

HOW MUCH DOES IT COST TO SET UP A BULLETIN BOARD?

There is no charge for setting up a bulletin board. Groups or organizations pay only for information storage, which may range from $2 to $10 per month. SpecialNet staff will assist you in establishing and maintaining a bulletin board for your group.

TO WHOM CAN I SEND MESSAGES ON SPECIALNET?

A directory of SpecialNet users is available on the system. The directory is updated daily, as new subscribers are added. You can get information about a particular subscriber, a list of subscribers in a state, a list of college and university subscribers, etc.

And now you can send messages from your terminal to anyone in the United States via SpecialNet-Xpress Mail. A new service allows users to send hard copy letter quality, laser printed letters, including a logo and signature, and overnight delivery "Gram-style" letters.

WHAT EQUIPMENT WILL I NEED?

Many SpecialNet subscribers use existing microcomputers, such as Apple, IBM-PC, or TRS-80 to access the system. Some use word processors, including Wang, Xerox, CPT, and Lanier. Others use inexpensive terminals to access the system. Technically speaking, your terminal or microcomputer must be equipped with an asynchronous 300 or 1200 baud telephone modem.

SpecialNet offers Texas Instruments' portable terminals as part of one subscription option for those who wish to purchase a complete turnkey system. Call SpecialNet if you have any question about your equipment's compatibility with the system.

DO I NEED TO UNDERSTAND HOW TO USE A COMPUTER?

No. SpecialNet manuals provide all the information you need to take full advantage of the system. No experience with computers is necessary.

CAN I PRINT OUT THE INFORMATION?

Yes. If you have a printer attached to your microcomputer, you may choose to print any, all, or none of the information you receive via SpecialNet.

HOW DO I JOIN SPECIALNET?

To join the SpecialNet system, you enter a subscription, based on the three options shown on the back page, covering a subscription fee and connect charges. If none of the plans listed meet your needs, we will be happy to tailor a plan to fit your requirements.

WHAT IS CONNECT TIME?

You pay a connect charge for the actual time you use the system each month. You pay only for the time you are "connected" to the system. See rate schedule on page 6.

IS TECHNICAL SUPPORT AVAILABLE?

An important part of any service you use is the support you receive. SpecialNet provides a total package of supporting services:

- Consultation — We will help you analyze your communication requirements and recommend ways in which SpecialNet can improve information flow and productivity.
- Systems Tailoring — SpecialNet staff will help tailor the service precisely to your needs. For special reports or forms, we will develop a SpecialNet program that automatically prompts the user for specific information and performs data entry validation.
- Training — Easy-to-use instruction guides and a self-paced training program are available to all users. In addition, our training representatives will provide onsite training at low cost if desired. SpecialNet staff are also available to help users with individual questions that arise during their use of the system.
- Cost Accounting Records — Monthly invoices summarizing usage for every subscriber are provided along with optional group usage statistics and management reports, to assist district and agency finance and administrative offices.

WHAT ARE THE BENEFITS OF USING SPECIALNET?

Ease of use: SpecialNet is designed to be used by the administrator alone or in conjunction with staff. Users "talk" to SpecialNet using everyday office terminology such as "read," "scan," "send," and "file."

- *Time savings:* Critical information can be sent to individuals or groups (lists) quickly. A receipt can be generated automatically telling the sender the minute a message has been read.

- *Cost savings:* SpecialNet costs have been kept very low — in both urban and rural areas — to encourage a large number of educational personnel to participate in the network. SpecialNet costs less than conventional mail or long distance telephone calls. It is possible to send up to seven pages of text instantly for less than $1.

- *Telephone savings:* Wasted time is avoided by using SpecialNet. For example, you don't have to worry about busy signals, missing your contact, or finding that the person you want to reach is in a meeting.

CAN I ACCESS SPECIALNET AT ANY TIME OF DAY?

Yes, the system operates 24 hours a day, seven days a week. This is especially important in reducing communication problems caused by different time zones. In effect, your school district or agency business is extended, too, because about one-fifth of all messages typically are sent and read outside normal business hours. SpecialNet service is available nationwide via the GTE Telenet public data network. Telenet can be reached with a local phone call in nearly 400 U.S. cities and by an "800" number in other locations. You can even reach people outside the country via interconnecting public networks.

NATIONAL BULLETIN BOARDS ON SPECIALNET

FEDERAL Focusing on information from Washington for administrators in special education: what is happening in Congress, including notices posted directly by key Congressional committees such as the Senate Select Committee on the Handicapped; activities, new regulations and policies from the Office of Special Education Programs in the Department of Education; and other legislative and executive news from the national capital.

LITIGATION Brief descriptions of court cases and hearing decisions, with references to tell where to obtain detailed information.

EMPLOYMENT Listings of employment opportunities in education. Any subscriber can send announcements to this bulletin board by composing a message To: EMPLOYMENT or by completing an online position announcement form.

EXCHANGE Facilitates sharing of information and ideas among SpecialNet users, who can request technical assistance, exchange strategies and project data, transmit general information.

ED. DAILY News from Education Daily, published every business day by Capitol Publications, Inc., available instantly via SpecialNet. This bulletin board provides coverage of congressional action on important education legislation; civil rights lawsuits; activities of federal, state and local education agencies; federal programs such as Chapter 1 and PL 94-142. To access the ED.DAILY bulletin board, you must subscribe to Education Daily as well as SpecialNet.

RFP Tracks grants and contracts issued by federal agencies of interest to SpecialNet subscribers. Programs and areas scanned include: general education, special education, rehabilitation, migrant education, bilingual education, higher education, vocational education, women's equity, communication disorders, behavioral sciences, humanities, arts, health, mental health, justice, and transportation.

CONSULTANT Listing of consultants in various areas of education. Any consultant can be listed. No judgments are made on consultant qualifications.

VOCED Information about vocational education posted by SpecialNet users. This board is managed by Missouri Link, a vocational education project at the University of Missouri.

ASSESSMENT Established in response to requests from subscribers, the board provides a place where educators can communicate directly with test developers and publishers about tests and assessment instruments. Publishers post announcements of new assessment instruments.

NASP Provides information concerning the National Association of School Psychologists and offers a means of communication among professionals in school psychology.

PROGRAM.EVAL Provides information on program evaluation for state and local education agencies. This bulletin board contains information on conferences and events, new products relevant to program evaluation, and reports on evaluation efforts. The Mid-South Regional Resource Center at the University of Kentucky manages this bulletin board.

PRACTICES Describes promising practices pertaining to classroom instruction, teacher education, administration, inservice, and preservice. Each description is accompanied by effectiveness data gathered on the practice. Referrals are made by state and local education agencies, regional resource centers, and others.

CONFERENCE Describes education-related conferences. Subscribers can list upcoming conferences by composing a message To: CONFERENCE.

OPINIONS SpecialNet's "letters to the editor," providing subscribers with an opportunity to express "opinions" about issues in education.

COMPUTER Provides information on computer applications in education. This board is managed by Education Turnkey Systems, Falls Church, VA.

TELEVISION Provides short courses on the uses of public, cable, and satellite television for educational purposes. Entries include "how to's" and terminology, descriptions of TV projects around the country, information about cable companies, descriptions of effective videotapes and films for TV or classroom use, current events in telecommunications, and related information.

PDK.CEDR Establishes two-way communication between international headquarters and chapter officers of Phi Delta Kappa, a professional education organization. PDK exchanges information about programs, publications, exemplary research studies, and innovative programs.

SOFTWARE Offers subscribers an opportunity to share evaluations of software and information on educational software, and to ask other users for help in locating effective computer software.

WHAT DOES SPECIALNET COST?

WHAT IS SPECIALNET'S RATE SCHEDULE?

Computer Connect Rates

	Business Hours	Off-Peak Hours	Night Hours
	Monday-Friday 7 a.m.-6 p.m.	Mon.-Fri. 6-9 p.m. Sat., Sun., holidays, 7 a.m.-9 p.m.	9 p.m.-7 a.m. Daily
Basic Charge (to a local access number)	$13	$7	$4
Inwats Charge (to 800 Telenet number)	$22	$14	$6

(All charges are based on your time zone)

Broadcast Delivery Charge: Five cents ($.05) per addressee.

No charge for first addressee of a message sent to more than one user. Five cents ($.05) for each additional addressee.

Storage Charge: $.007 a day per storage unit

Charge is based on storage units of 1000 characters. There is no charge for the first five days of storage after a message is posted, read, or delivered.

Character Charge: Five cents ($.05) per character unit

Charge is based on character units of 1000 characters sent or received.

Detailed monthly bills for SpecialNet usage are sent to subscribers by National Systems Management, Inc.

Rates for subscribers located outside the continental United States differ. Contact the SpecialNet office for specific rate information.

Rates are subject to change without notice.

WHAT SUBSCRIPTION PLANS ARE AVAILABLE?

SpecialNet subscribers need access to a microcomputer, terminal, or word processor, and a telephone modem. Plan III includes purchase of a terminal.

Subscriptions to SpecialNet can be arranged according to your needs. If none of the plans listed meet your needs, we will be happy to tailor a plan to fit your unique requirements.

PLAN I Subscription — $200 per year

Subscribers are billed monthly for actual time they are connected to SpecialNet. (See rate schedule for connect charges)

PLAN II Subscription including $300 of prepaid computer connect time — $500 per year

The average SpecialNet subscriber utilizing the system daily spends about $300 per year for connect charges. Monthly statements are provided indicating the amount of connect time used. Funds not spent will be credited to the subscriber's account. Usage beyond $300 will be invoiced according to the subscriber's wishes.

PLAN III Subscription including $300 of prepaid connect time and terminal — $1150

This plan provides for the Plan II option plus a complete turnkey system, with a Model 707 Portable Printer Electronic Data Terminal, manufactured by Texas Instruments, a roll of thermal paper, all shipping charges, and system and equipment documentation. For second and subsequent years, subscriber may choose either Plan I or Plan II.

PLAN IV Subscription including $300 of prepaid connect time and lap-size computer — $1400

This plan provides for the Plan II option plus a complete turnkey system, with a lap-size computer made by NEC. The NEC weighs 4.7 pounds and operates on C-cell batteries or with an AC adaptor. The 80-character by 16-line LCD display is clear and excellent for typing documents up to 16 pages in length. Included is a built-in 300 BPS modem and WordStar To Go, Calc To Go, Filer, and Telecom software in ROM.

For second and subsequent years, subscriber may choose either Plan I or Plan II.

Welcome to SpecialNet's Directory of Bulletin Boards and Users!

Please select the number of the option you prefer from the menu below:

1. List of Users in a Specific State
2. List of University and College Users
3. List of State Office Users
4. List of Programs/Services for the Deaf and/or Visually Impaired
5. List of SpecialNet Bulletin Boards
6. List of Association Users
7. List of Private School Users
8. List of International Users
9. List of Federal Offices & Projects
10. List of Corrections Users
11. Return to the Command? Prompt

Please enter your selection number: 5

SpecialNet Bulletin Board Menu 1

1. AIA	12. CONSULTANT	23. LITIGATION
2. APPLE	13. C.SET	24. MARKET
3. ASHA.UPDATE	14. CSPD	25. NAPSEC.ISSUES
4. ASSESSMENT	15. DEAFNESS	26. NASP
5. ASSISTIVEDEVICE	16. EARLYCHILDHOOD	27. OPINIONS
6. BILINGUAL	17. EMPLOYMENT	28. PDK.CEDR
7. CEC.NEWS	18. EXCHANGE	29. PIP
8. CHAIN	19. FEDERAL	30. POLICY
9. COMMUNITY.LIVING	20. GIFTED	
10. COMPUTER	21. INTERNATIONAL	
11. CONFERENCE	22. LINC.UP	

Enter the NUMBER which corresponds to the Board you you would like more information about - Additional Boards are listed in Menu 2 - Type M for (M)enu 2 list of Additional Boards, Type X if you wish to e(X)it to the Command? prompt

Please enter your selection: m

SpecialNet Bulletin Boards Menu 2

1. PRACTICES	9. TECH.LINE
2. PROGRAM.EVAL	10. TECH.TALK
3. RFP	11. TELEVISION
4. RURAL	12. TRANSITION
5. RURAL.RESEARCH	13. VISION
6. SEVERE	14. VOCED
7. SOFTWARE	15. VSA.NEWS
8. SPEC.PE	

Type the NUMBER which corresponds to the Board you would like more information about - Type R to (R)eturn to the previous menu. Type X if you wish to e(X)it to the Command? prompt

Please enter your selection: check aids

Please enter the NUMBER which corresponds to your choice OR enter R to return to the previous menu. Enter X to eXit.

Please enter your selection: r

```
 2. APPLE                  13. ..SET                 24. MARKET
 3. ASHA.UPDATE            14. CSPD                  25. NAPSEC.ISSUES
 4. ASSESSMENT             15. DEAFNESS              26. NASP
 5. ASSISTIVEDEVICE        16. EARLYCHILDHOOD        27. OPINIONS
 6. BILINGUAL              17. EMPLOYMENT            28. PDN.CEDR
 7. CEC.NEWS               18. EXCHANGE              29. PIP
 8. CHAIN                  19. FEDERAL               30. POLICY
 9. COMMUNITY.LIVING       20. GIFTED
10. COMPUTER               21. INTERNATIONAL
11. CONFERENCE             22. LINC.UP

  Enter the NUMBER which corresponds to the Board you you would like
  more information about - Additional Boards are listed in Menu 2 -
  Type  M for (M)enu 2 list of Additional Boards, Type X
  if you wish to e(X)it to the Command? prompt

Please enter your selection:   x

Command?  check aids

  Now using bulletin board.

Command?  rescan all

  Bulletin Board contains:

 No.   Delivered     From                Subject                          Lines

   1 Nov  4 20:39 EDLAW          What is AIDS/Line?                          35
   2 Nov  4 20:49 EDLAW          CDC AIDS Guidelines/Tesxt                  246
   3 Nov  4 20:54 EDLAW          NEA AIDS Statement                          84
   4 Nov  4 21:01 EDLAW          NEA AIDS Guidelines                        151
   5 Nov  4 21:04 EDLAW          Number of AIDS cases by State               43
   6 Nov  4 21:13 EDLAW          Questions and Answers on AIDS              207
   7 Nov  4 21:17 EDLAW          AIDS Tests: What They Do and Don           102
   8 Nov  7 20:13 EDLAW          Proposed Federal Legislation on             76
   9 Nov 10 21:56 EDLAW          Disease as 504 Handicap                     56
  10 Nov 14 20:42 EDLAW          Amer. Acadmy. Pediatrics on AIDS           184
  11 Nov 24 22:21 EDLAW          Removal Pending Evaluation?                 66
  12 Dec  4 20:21 EDLAW          Colorado SEA on AIDS                        59
  13 Dec  5  0:00 EDLAW          CO Bd. of Health/AIDS                      114
  14 Dec  8 19:07 EDLAW          U.S.Public Health Service Guides           121
  15 Dec  9 20:23 EDLAW          Videotape for AIDS Education                46
  16 Dec 10 19:32 EDLAW          AIDS Test Before Marriage?                  34
  17 Dec 12  0:00 EDLAW          Sending AIDS/Line Information               28
  18 Dec 14  0:00 EDLAW          College Task Force on AIDS                  48
  19 Dec 15 11:21 EDLAW          Hearing Decision on AIDS Student            86
  20 Dec 17  0:00 EDLAW          MD Bd of Health Guidelines                 211
  More...

  Bulletin Board contains:

 No.   Delivered     From                Subject                          Lines

  21 Dec 19 20:08 EDLAW          gomery County, MD, policy change            46
  22 Dec 22  0:00 EDLAW          Public Health Service Guides/Par            91
  23 Jan  4 11:00 EDLAW          Insurance Coverage                          65
  24 Jan  6  0:00 EDLAW          2d Video Tape                              117
  25 Jan  7  0:00 EDLAW          Reporting AIDS Test Results                 39
  26 Jan  8  0:00 EDLAW          Brochure on AIDS for Schools               152
  27 Jan 22  0:09 EDLAW          Estimates of AIDS Death Rise                75
  28 Jan 25  0:00 EDLAW          New York May Regulate Insurers'             48
  29 Jan 28 21:44 EDLAW          AIDS Seminar/New Orleans                   300
```

TO ACHIEVE EXCELLENCE IN EDUCATION, YOU *NEED* UP-TO-THE-MINUTE INFORMATION.

TO GET IT, YOU *NEED* ED-LINE.

ED-LINE is education's first electronic news service. It is provided by the National School Public Relations Association (NSPRA) through its staff of reporters and editors who publish the weekly newsletter *EDUCATION USA*. ED-LINE transmits information through THE SOURCE computer network and is available throughout the United States and in more than 40 other countries. Founded in 1981 and transmitted twice daily, the two-way, interactive electronic service goes far beyond news to provide ready-reference information, statistics, Supreme Court decision summaries, reviews of research, tracking of major federal legislation, communication, education and public relations tips, and other critically needed, time-sensitive material.

The ED-LINE menu presently includes the information categories listed below. With your subscription, you'll feel as if you receive a daily education bulletin plus a wide variety of specialized education newsletters each week, all at one low price!

ED-LINE MENU

1. *EDUCATION USA* Newsline
2. School PR Line: The NSPRA Network
3. Federal Alert
4. EDTECH Update
5. Legal Briefs: The Law of the Land
6. Community Education Update
7. RuraLine
8. National Networks
9. Regional Networks
10. State Networks
11. Excellence in Education
12. Network Directory
13. Ed Exchange
14. Useful Facts and Figures From NIE
15. What's New in Research
16. Classroom Ideas
17. ED-LINE BONUS ITEM

DATABASE DESCRIPTIONS

1. ***EDUCATION USA* Newsline**—The most extensive single information line available on ED-LINE. Newsline is updated twice each weekday with each edition containing four to five news stories. An average of 10 weeks of back issues (approximately 400-500 stories) are stored on the computer at any given time to allow subscribers to search for and retrieve stories for reference and research purposes.

2. **School PR Line**—Updated each Monday, the NSPRA network is provided to help school public relations specialists and education leaders improve school communications in their school district, building, or agency.

3. **Federal Alert**—Daily updated information about federal funding, legislation, regulations, and personnel.

4. **EDTECH Update**—Consists of a weekly newsletter on technology, software reviews by *CLASSROOM COMPUTER LEARNING* magazine, and an on-line consultant's answers to general questions.

5. **Legal Briefs: The Law of the Land**—Summaries of major U.S. Supreme Court decisions about education, updated as new decisions are handed down.

6. **Community Education Update**—An information line updated twice monthly, carrying practical items to help school leaders better understand and implement community education programs.

7. **RuraLine**—Updated each Monday, RuraLine is tailored to bring instant, useful information to educators in the nation's small and rural schools.

8. **National Networks**—A menu listing the various news and information services available from the national agencies participating as subnetworks on ED-LINE. (See network list.)

9. **Regional Networks**—Same as National and State Networks, except for regional agencies participating as subnetworks. (See network list.)

10. **State Networks**—Same as National Networks, except for state agencies participating as subnetworks. (See network list.)

11. **Excellence in Education**—Information relating to the continuing series of reports being issued about improving our nation's schools. Updated as new information is received.

12. **Network Directory**—A voluntary listing of ED-LINE subscribers, their ID numbers, and key personnel to help subscribers contact one another electronically.

13. **Ed Exchange**—An open bulletin board feature through which any subscriber can post a question, comment, or request for other subscribers to see and respond.

14. **Useful Facts and Figures From NIE**—More than 800 individual items of information are available on a key-word basis from the National Assessment of Educational Progress, plus state comparison statistics from the Department of Education.

15. **What's New In Research**—Updated weekly, research findings of interest to subscribers are available as selected by *EDUCATION USA* editors.

16. **Classroom Ideas**—Updated weekly during the school year, Classroom Ideas contains bright ideas and tips for teachers to use in the classroom.

17. **ED-LINE BONUS ITEM**—Monthly feature on an education issue, or descriptions of programs picked as exemplary.

ED-LINE
ED-LINE
ED-LINE

EDUCATION INFORMATION . . . AT YOUR FINGERTIPS

DATABASE DESCRIPTIONS

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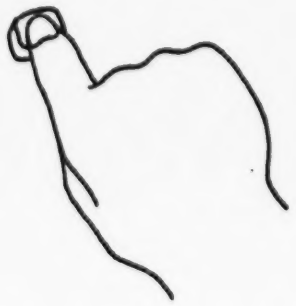
EDUCATION INFORMATION . . . AT YOUR FINGERTIPS



STATE, REGIONAL, AND NATIONAL NETWORKS

State, regional, and national education agencies also have their own private electronic networks on ED-LINE transmitting information tailored to their constituencies.

The following organizations are presently using the ED-LINE system to communicate with their members and other interested education leaders:

- The American Association of School Administrators
- The Association for Educational Communications and Technology
- The Council of Chief State School Officers
- The National Institute of Education
- The National School Public Relations Association
- The Northeast Regional Exchange, Inc.
- The Northwest Regional Education Laboratory
- The Alabama Association of School Boards
- The Iowa Association of School Boards
- The Kansas Association of School Boards
- The Ohio School Boards Association
- The Confederation of Oregon School Administrators
- The Oregon Community College Association
- The Oregon Department of Education
- The Oregon School Boards Association
- The Pennsylvania Department of Education
- The Washington State School Directors' Association
- The Wisconsin Association of School Boards
- The Wyoming Department of Education

With ED-LINE, you can tailor your subscription to fit your information needs. By selecting a network when you subscribe, you will receive the information that is provided by that network—either about your state, region, or the nation. Plus, receive all the other information available on ED-LINE. (Individual network rates will vary.)

Current estimates indicate that ED-LINE's international network reaches a potential audience of over 1,500,000 teachers, administrators, support staff, and school board members in school districts and other education agencies.

ED-LINE RATES

ED-LINE rates are as follows:

Network subscriber $150/year*

Non-network subscriber $225/year*

*Plus monthly connect time charges.

Individual subscription rates will vary depending on the rates of the participating networks who charge additional fees.

Send the form for more detailed information on ED-LINE rates.

NSPRA

NEED HELP?

Customer service is always foremost with ED-LINE. We want everyone who subscribes to be able to use the system both efficiently and effectively. To help, we not only have a staff dedicated to serving you, we also have ED-LINE workshops offering technical assistance in our national office and ongoing regional ED-LINE workshops.

For specific questions about ED-LINE, contact the ED-LINE support staff listed below at (703) 528-5840, or CUG001.

Technical Assistance: Sharman Lofgren
Marketing Services: Laura D. Bono
ED-LINE Editor: Anne Lewis
Executive Director: John H. Wherry

INFORMATION ABOUT ED-LINE'S CARRIER NETWORK

When you become an ED-LINE subscriber, you also gain access to the services of THE SOURCE: an international computer information network used to transmit ED-LINE.

THE SOURCE was founded in 1979, and purchased in 1980 by Reader's Digest. In 1983, the Digest was joined in its telecommunications business by Control Data Corporation.

The services provided by THE SOURCE include many that originate at various computers around the nation, linked with and coordinated through its computer center in McLean, Virginia.

The following are a few of the many services offered by THE SOURCE:

- Electronic mail
- UPI or AP wire services
- Public bulletin boards
- Financial news
- Stock and bond prices
- Electronic games
- Airline schedules
- Legislative reports and analyses
- Weather advisories
- Electronic discount shopping
- Employment opportunities
- Computer user's groups
- Children's educational games
- Computer news
- Electronic banking
- Entertainment reviews and schedules
- Health and fitness information
- Feature articles from major publications
- User directory
- and much more

FOR MORE INFORMATION ABOUT ED-LINE

☐ Yes! Please send me more information about ED-LINE and its participating networks.

NAME _____ TITLE _____

SCHOOL/DISTRICT _____

ADDRESS _____

CITY/STATE/ZIP _____

TELEPHONE ( ) _____

EQUIPMENT I PLAN TO USE: _____

QUESTIONS I NEED ANSWERED: _____

_____

Mail to: NSPRA, 1501 Lee Highway, Arlington, VA 22209

The National School Public Relations Association is an equal opportunity/affirmative action organization.

ED-LINE
ED-LINE
ED-LINE

the news and information network of the
NATIONAL SCHOOL PUBLIC RELATIONS ASSOCIATION
1501 Lee Highway
Arlington, VA 22209

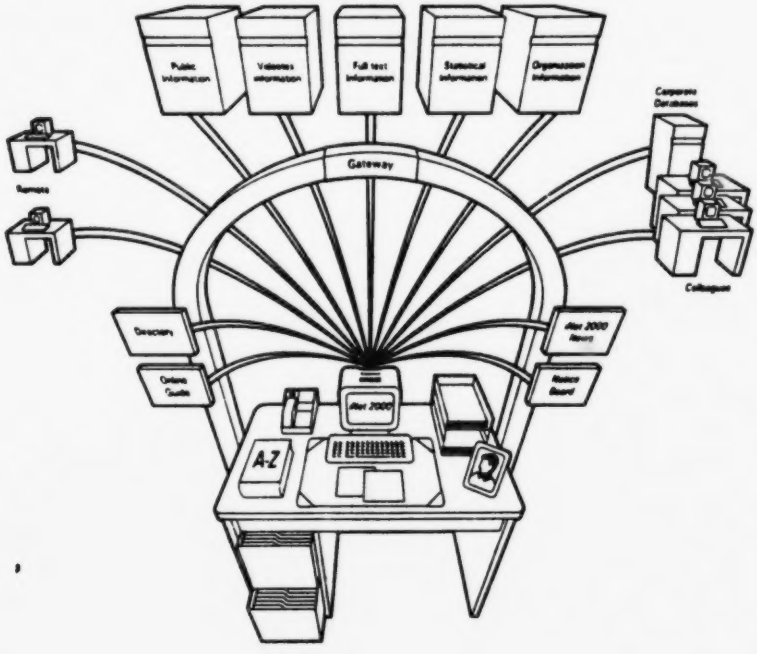
iNet 2000 OVERVIEW

iNet 2000, the intelligent network, is a service offered by Telecom Canada to facilitate information management. Information as a commodity has become widely recognized with the growth of the computer industry and telecommunications.

iNet 2000 provides you with the ability to:

- locate, access and retrieve information through the use of the iNet 2000 directories;
- manipulate information using a personal workspace and command files;
- distribute, disseminate and communicate information through Messaging, Data Conferencing and Notice Boards.

These features combine with ease of use, summarized billing and terminal independence to make iNet 2000 an exciting solution to the enigma of office automation.



This is a pictorial representation of what iNet 2000 offers you through your terminal. Your profile identifies you as a unique user. You may select the way you wish to interface with iNet 2000. You may use either a menu driven interface, or once proficient you may choose to use the command interface.

Your files can include information from messages you have received from other individual users, reports you have created and written yourself, data you have gathered and saved in your own format and various other applications defined by your own imagination and use of the system.

The Gateway Directory is your path to the outside world of Information Service Providers (ISPs). You may choose which ISP services you wish to use and iNet 2000 provides extended access alleviating any protocol complexities you would otherwise encounter by accessing these services individually.

We present the activities and features for you to discover. As you use the iNet 2000 service you will be able to adapt the features to your own particular needs and applications. If you find a new application which you think iNet 2000 can accommodate, please contact the Customer Assistance Centre for guidance. We are always interested in refining the service to better serve our clients.

iNet 2000 comprises eight major activities and a number of associated features.

1. Gateway directory - The Gateway directory lists all Information Service Providers available through iNet 2000 and describes each of the online services they offer. It also contains an Online Catalogue listing products which you can order online. All services and products are cross-referenced in an extensive online Thesaurus so you can search for the information you need using any of the thousands of terms in the Thesaurus. Each product entry or service listing in the Gateway includes a description of the item or service and the cost.

2. Personal directory - The Personal directory is your private area for storing listings to online services which you access frequently. You can copy any service listings from the Gateway directory or your Notice Board into your Personal directory. You can add your personal description of the contents of the directory and choose a nickname which you can use to facilitate accessing the service.

3. Notice Boards - Your Notice Board is an area where you and your associates may store and display a variety of information. You may include in your Notice Board association newsletters, telephone lists, lists of your in-house databases and frequently used public services. All Notice Boards contain the iNet 2000 Trainer, which you may use to learn how to operate iNet 2000.

4. iNet Messaging - iNet 2000 offers a complete and integrated Messaging service. You can send messages to and receive messages from any subscriber of either iNet 2000 or Envoy 100. You can also use EnvoyPost to send a message anywhere in Canada or the U.S.A. using iNet Messaging and the Canada Post Corporation's joint service. Information obtained through iNet 2000 can be incorporated in any message without time consuming re-typing.

5. Profile - Your personal Profile offers a choice in the way you interact with iNet 2000. You can use iNet 2000 in either English or French and select the terminal type which allows you to maximize the capabilities of your terminal or personal computer. The interface option allows you to choose the amount of explanation that iNet 2000 displays when you are using the service. You may also pre-select the activity with which you wish to begin each iNet 2000 session. These and other options are under your personal control and may be changed at any time.

6. Workspace - Your iNet 2000 Workspace contains a storage area for the online filing of information and an easy-to-use Editor for creating or modifying text. Files may be grouped together into online file folders using descriptive file names and groups. Two versions of the Editor are available - one for users with a scroll or ASCII type of terminal and a different version for terminals or personal computers with full screen capabilities.

7. News - The iNet 2000 News contains highlights of new Information Service Providers available on iNet 2000, changes to existing ISP services and explanations of new iNet 2000 features.

8. Online Guide - iNet 2000's online Guide provides online reference material on using the system, including detailed instructions on each iNet 2000 activity and command.

iNet 2000 has an array of sophisticated features which may be used in combination with these activities to complete your information management package.

. Recording - iNet 2000's recording feature allows you to make an electronic copy of any information viewed through iNet 2000 and store it in a file in your Workspace. This information could also be modified and distributed to other iNet 2000 users via iNet Messaging or Data Conferencing.

. Data Conferencing - You can hold an electronic conference with up to twelve other iNet 2000 users. The chairperson of a conference can perform all iNet 2000 activities while the other conference participants watch. This feature can be used to hold online training sessions, to view a presentation stored in your Workspace or to consult with colleagues.

. Command Files - iNet 2000's command file feature allows you to perform a variety of iNet 2000 activities using a pre-selected series of commands. Command files can be used to automatically perform a daily search for information on a given topic, to have iNet 2000 add services to your Personal directory or to send a message using iNet Messaging.

. Accessing Information Service Providers - You may access any Information Service Provider which is listed in the Gateway directory, your Notice Board or Personal directory. If you are not accredited to the service, a Request For Accreditation Form is automatically presented. Once accredited, you may access the service from any directory in which it is listed, or from any other iNet 2000 activity except Messaging.

. Online Assistance - iNet 2000 provides a full range of online assistance.

Help is offered at every prompt on the system in three forms - a general message describing the activity you are in and frequently used commands, a full list of all commands that can be entered at the prompt, and help on any given command.

For more detailed instructions, the Online Guide is available and can be accessed from all iNet 2000 activities.

The iNet Trainer is an online tutorial listed in your Notice Board. This Trainer may be used to teach yourself how to use iNet 2000.

TYPES OF USERS

Telecom Canada offers two types of iNet 2000 user subscriptions - corporate and individual. Both types of subscriptions offer access to all iNet 2000 features.

CORPORATE SERVICE

Corporate service is designed for an organization with more than one iNet 2000 user. This option is usually used by the members of one company.

Each user in this corporate service account has a unique iNet 2000 user-id name and password.

Each user within a corporate service account may individually personalize their iNet 2000 profile, by selecting their choice of language and identifying the type of terminal they use.

All users within a corporate service account see the same Notice Board. In addition, each user has their own Personal directory.

A corporate service organization receives one bill for all iNet 2000 usage and for usage on services offered by Information Service Providers participating in iNet 2000's Accounts Receivable Management program. The iNet 2000 bill contains sub-totals for charges by each user within the corporate service account.

INDIVIDUAL USER SERVICE (IUS)

Individual User Service is designed for the single iNet 2000 user.

Each individual user has a Notice Board and a Personal directory. Any individual user who has interests in common with another iNet 2000 user or group of users (e.g. a member of an association) may make arrangements to share a Notice Board with them.

Each individual user receives a bill for iNet 2000 usage and services offered by ISPs participating in iNet 2000 Accounts Receivable Management program.

TYPES OF INFORMATION SERVICE PROVIDERS (ISPs)

iNet 2000 users can access a variety of information services and databases stored on many different computers. These online services are marketed through commercial companies or public organizations known as Information Service Providers (ISPs).

ISPs may list their online services in iNet 2000's Gateway directory. A standard set of information, including a description of the contents of the service, the cost of accessing the service, and other relevant information is provided for each service listing.

The information in ISP services varies in format. Some services provide full text material, other offer bibliographic citations and abstractions. Some provide largely statistical or numeric data, and others are in directory format. The details sections of each Gateway directory listing indicates the type of information you can expect.

ISPs may also offer goods or services in iNet 2000's Online Catalogue. These goods are described in the Catalogue pages listed in iNet 2000 and may be ordered online.

There are five types of Information Service Providers:

1) Universal - A Universal ISP is listed in the Gateway directory. All iNet 2000 IUS users are automatically given access to this ISP when they are accredited to iNet.

2) Elective - An Elective ISP is listed in the Gateway directory, however users wishing to be accredited to this ISP must fill out a Request for Accreditation Form. (This form is presented whenever you attempt to access a service to which you are not accredited.)

3) Closed User Group ISPs - Closed User Group (CUG) ISPs offer services of interest to a specialized clientele. These ISPs may wish to restrict which users may access their system. They are listed separately in the Gateway directory.

4) Public ISPs - In some cases, an iNet 2000 subscriber may want to access an Information Service Provider which is not currently listed in the Gateway directory. These ISPs may be listed in a Notice Board.

5) In-House ISPs - An in-house ISP is a database owned or operated by an iNet 2000 user for the sole use of its employees or representatives. This ISP may be listed in a Notice Board.

Information Service Providers may charge additional fees not covered by iNet 2000 usage charges. These charges may be in the form of subscription fees, monthly fees, usage charges or other types of fees. These charges are shown in the listing for each service in the Gateway directory.

The iNet 2000 user contract covers a user's contractual agreement with many ISPs, however in some cases supplementary terms and conditions are required. These are normally listed in the Gateway directory listing for that service. It is the users' responsibility to read these terms and conditions and the users' first access to the service implies that they have done so.

Many Information Service Providers participate in iNet 2000's Accounts Receivable Management program. The charges for the use of these ISPs are included with your iNet 2000 bill.

APPENDIX F

SOURCES OF INFORMATION

1. COMPUTER TECHNOLOGY AND APPLICATIONS

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